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WILLIAM S. EDGAR, M. D.
AND
D. V. DEAN, M. D.

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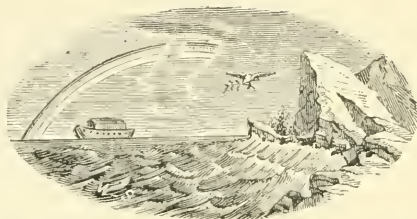
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THE SAINT LOUIS
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FEBRUARY, 1876.

Original Communications.

A CASE OF INTUSSUSCEPTION.

BY T. F. PREWITT, M. D.

On the 20th of June, 1875, my friend, Dr. F. V. L. Brokaw, called me in consultation to see a case of obstruction of the bowels with him. The child, an infant eight months old, had had some diarrhœa for a day or two. On the 19th, towards noon, it had a large stool containing fecal matter, greenish and thin. Between this and 2 o'clock p. m. it had a smaller fecal discharge.

At about 2 o'clock it was restless and nauseated, vomited freely, and lay back exhausted, beads of perspiration standing upon its face. It had no fecal evacuation after this, but fretted a good deal, and seemed in pain, at times, with nausea, and about 10 or 11 o'clock p. m. had a bloody serous stool. Dr. Brokaw saw it about midnight, and made a diagnosis of obstruction of the bowels.

When seen by me with Dr. B., about 11:30 a. m. of the 20th, the bowels were already somewhat tympanitic, pulse was quick, and nausea frequent. It cried out occasionally with pain, and showed marked symptoms of general distress. We were shown several diapers stained with bloody, serous discharges, but no fecal mat-

ter. There was dullness on percussion over the left iliac region, tympanitic resonance everywhere else. On examination *per rectum*, could feel a tumor in the abdomen distinctly, that did not seem in the line of the descending colon, but more in the direction of the umbilicus. Made a diagnosis of intussusception. We then stated the desperate nature of the case to the father, and the almost inevitably fatal result, and suggested a further consultation. Prescribed opiates and agreed to see the case again at 2 p. m.

At 2 p. m., Dr. J. T. Hodgen saw the case with us. We placed the child under chloroform, and again examined *per rectum*, confirming the previous diagnosis. We then tried inflation without effect. After a conference we decided not to attempt operative interference, but placed the child upon opium and ergot internally, with warm fomentation to the abdomen. Death took place at 6 p. m.

Post mortem. Sixteen hours after death—no evidences of peritonitis perceptible; external to the involuted portion, but within the folds, some lymph deposits found. The invagination had commenced at the ileo-cæcal junction, by a small portion of ileum protruding through the valve, seemingly, then involving the cæcum and colon, and progressing until the whole of the ascending and a part of the transverse colon had been swallowed in the process. The tumor was about six inches long, sausage-shaped and crescentic. The lower extremity of the invaginated portion had not passed through the sigmoid flexure, and could not therefore be felt in the line of the descending colon.

Some of the folds of the small intestine had been constricted by the stretched meso-colon, and about two inches of it were greatly congested. The invaginated bowel was very deeply congested, though not gangrenous, as was also a portion of the enveloping colon.

The fissured orifice of the ileum and the round one of the partly inverted caput coli were well shown.

The strangulation was pretty tight, and no attempt was made at the time to withdraw the invaginated bowel, as the post-mortem was hurriedly made; but I think reduction could have been effected, with some difficulty, perhaps.

This is a typical case of intussusception, in its origin, its symp-

toms, its rapid course, and in its termination. I make no reference to those slight invaginations of the small intestine so frequently met with in the *post-mortem* of children.

They present no symptoms during life, have no pathological significance, and, of course, no therapeutic indications. Intussusception is not a frequent affection, as compared with other diseases, yet, according to Brinton, it forms forty-three per cent., or nearly one-half, of all fatal cases of obstruction of the bowels.

It may occur in either the small or large intestines, but intussusception of the small intestines is very rare. Of 52 cases recorded by Dr. J. Lewis Smith, but 4 were of the small intestine. The most frequent form is the ileo-cæcal, that which is presented in this case. It begins usually by a prolapse of a portion of the ileum through the ileo-cæcal valve, very much as a prolapse of the rectum occurs.

The tenesmus brings down more and more of the ileum, perhaps with its mesentery, until the constriction of the ileo-cæcal valve prevents a further descent. The persistent tenesmus may then carry in the caput coli, and the process go on, if the child survives, until the ascending, transverse, and even a part of the descending colon, are successively invaginated. The lower extremity of the mass may present at the anus, or even become prolapsed and be mistaken for prolapse of the rectum.

The second most common form, perhaps, is where the cæcum is primarily inverted, and, passing along the colon, drags with it the ileum, its relations to the ileo-cæcal valve remaining unaltered. In this case there are two openings at the lower extremity of the invaginated bowels—one leading through the cæcal valve, the other into the appendix vermiformis.

The next most frequent form is where some portion of the colon becomes invaginated in the portion below and the most frequent site of this is the lower part of the descending colon, or the sigmoid flexure.

Dr. Brinton gives the frequency of the different forms thus :

Ileo-cæcal,	56	per cent.
Iliac,	28	" "
• Colic,	12	" "
Jejunal,	4	" "

The symptoms in all these present the general features of obstruction of the bowels, with something more. They vary

somewhat with the portion of bowel involved, the extent of the invagination and the degree of constriction. There is usually sudden pain, with frequent and urgent desire to stool, with little, if any, fecal matter passed, but often clots of blood, or bloody mucus. This is a symptom of great significance, as pointed out first by Mr. Gorham of Guy's Hospital. There are nausea and vomiting, more or less marked according to the seat of the obstruction and the tightness of the constriction. If the intussusception be high up in the small intestine, the irritability of the stomach is excessive. If it be low down in the colon, and the constriction not very great, it may amount only to occasional nausea. The seat of the obstruction influences the secretion of the kidneys, it being very scant, as pointed out by Mr. Hilton and Dr. Bird, where the obstruction is high up in the small intestine.

The distress, both general and local, is great, and death may ensue in 24 to 48 hours, and usually occurs in from 3 to 6 days.

The process of invagination of the bowel involves that of the attached mesentery or meso-colon as well; and with it the veins, which should return the blood, are almost inevitably compressed. In consequence, the incarcerated bowel becomes intensely congested, the capillaries give way, blood escapes, and we have the bloody stools, so characteristic of the lesion.

The effect of the dragging-in of the mesentery, or meso-colon, as the case may be, is to give, to the tumor formed, a crescentic shape, by reason of the traction it exercises upon one side of the bowel only. It will be seen, too, that the mass of mesentery drawn in, is constantly and necessarily increased in thickness where it enters the fold between the two layers of intestine forming the intussusception. It is at this point, therefore, that the greatest constriction occurs, and where inflammation and adhesions occur, thus preventing extravasation of fecal matter, where sloughing of the mass below takes place.

By reason of the lateral traction, of which we have spoken, the opening of the lower end of the invagination does not lie in the axis or in the centre of the enclosing bowel, but, as pointed out by Rokitansky, at one side—the mesenteric side of the intestine. For the same reason, the opening would be a fissure instead of a circular one.

These would be valuable points in diagnosis, where the bowel could be reached from below.

In exceptional cases, there may be so little constriction as to leave a sufficient passage for the evacuations. In these life may be prolonged for days, weeks, or even months, the child dying, eventually, from exhaustion. In addition to the symptoms already detailed, as connected with the obstruction, the tumor formed by the invaginated bowel can generally, especially in children, and often in adults, be recognized by external manipulation and examination *per rectum*, as in the case I have reported.

Examination *per rectum* should always be resorted to where intussusception is suspected. Simon has recommended the introduction of the whole hand in explorations of the abdomen in adults; and in St. Thomas Hospital Reports, 1873 (see *American Journal of Medical Sciences*, January, 1875), Mr. Wagstaffe narrates a case of intestinal obstruction in which this method was resorted to with advantage, a correct diagnosis made, and an operation subsequently performed with success.

The statistics of Dr. O. Lichtenstein, of Tübingen, show that intussusception occurs most frequently in childhood—over 30 per cent. occurring in children under six years, while, in a total of 593 cases, 131 occurred in children under 12 months. In 162 cases reported by Piltz (quoted by Ashurst), all in children, 91 were in infants less than a year old. Of the 52 cases reported by Dr. J. Lewis Smith, 29 were under 12 months. No age, however, is exempt.

Dr. Smith explains the greater frequency with which this affection occurs in infancy, upon anatomical grounds. "The walls of the intestine are thin, the mucous, muscular, and fibro-cellular structures being much less developed than in those that are older; the mesentery and meso-colon have also greater depth as compared with the same in other periods of life. * * * * * The space occupied by the large intestine, in which part of the digestive tube intussusception commonly occurs, is much shorter relatively to the length of the intestine than in those that are older * * * which, of course, necessitates doubling of the intestine upon itself."

Unfortunately, with this greater frequency in very early life is coupled, also, a greatly increased mortality.

DIAGNOSIS.

As a rule, a differential diagnosis must be made as between this and other forms of intestinal obstruction.

Prof. Adelman, however, quotes cases in which this affection has been confounded with strangulated hernia, with reducible hernia, with peritonitis, with biliary and renal calculi, with poisoning, and with cholera. (*Year-Book Sydenham Society* 1863). In children, it is, perhaps, most frequently mistaken for dysentery, in consequence of the tenesmus and bloody stools which accompany it.

A very little care in the investigation would exclude the most of these.

In dysentery there is not such complete absence of fecal matter in the evacuations, nor are the nausea and vomiting such marked features as in intussusception. It must be remembered, however, that there is, usually, at least one fecal discharge after the occurrence of invagination; and in simple invagination without strangulation there may be even diarrhea.

In all cases of obstruction of the bowel, all the usual and unusual sites of hernia should be explored.

If, then, in addition to the symptoms common to all forms of intestinal obstruction, such as pains, obstinate constipation, nausea, vomiting, etc., we find that the symptoms have been developed suddenly, that there has been no history of past peritonitis to form constricting bands; if we can detect, by external manipulation and rectal examination, a tumor of recent formation; if the stools are bloody; if, in addition, the patient is a child we may conclude, with reasonable certainty, that it is a case of intussusception. In those cases where we can reach the lower extremity of the invaginated bowel, and can detect the fissure-like orifice to one side of it, or the ileo-cæcal opening with that leading into the appendix vermiformis, there is no longer room for doubt.

The prognosis is always grave. So grave, indeed, that Dr. J. Lewis Smith says, "a physician called to a case should always expect and predict a fatal result."

In very rare cases spontaneous reduction has, seemingly, occurred after well marked symptoms. In a certain proportion of cases, too, sloughing of the invaginated bowel takes place and the patient recovers.

In 149 cases in which sloughing occurred, 88, or about 62½ per cent., recovered; while, of 408 in which sloughing did not occur, only 63, or about 15½ per cent., recovered.

The amount of intestine which may be eliminated in this way and the patient still survive, is something enormous. L. Ninaus reports a case of recovery where fifty inches of the small intestine had sloughed (*American Journal Medical Sciences*, April, 1872); and Habershon (*Diseases Alimentary Canal*) refers to another which terminated favorably—the specimen of which is to be seen in Guy's Hospital museum—in which the whole of the cæcum and the ascending colon were passed.

Where recovery follows the sloughing of the invaginated mass, the patient usually suffers no subsequent inconvenience. Sometimes, however, contraction of the bowel occurs. A. P. Duchaussoy reports 65 cases of recovery under such circumstances, in 7 of which contraction followed. (*Year-Book, &c.*, 1863).

The treatment in these cases resolves itself into: (1.) attempts to reduce the invagination; or, (2.) failing in this, to await sloughing of the invaginated bowel—in the meantime, as summarized by Brinton, “to prevent distension, to assuage pain, to mitigate excessive peristalsis, and to support the patient's strength, during what is necessarily an exhaustive and often a long illness;” or (3.) the performance of laparotomy—that is, an incision into the abdomen, that we may seek for the intussusception and withdraw the invaginated bowel.

The use of purgatives, at any stage, cannot be too strongly reprehended. They are capable of producing infinite mischief, without the possibility of accomplishing any good. As to the administration of quicksilver, the use of it at this day ought to subject the practitioner to a prosecution for malpractice. It is based neither upon physiological or pathological observation, nor upon the results of experience. On the contrary, it is in violation of common sense, and without a single fact to support its use. Nor does the vomiting that occurs in these cases require any treatment. On the contrary, it is a conservative process, relieving the distension, and preventing accumulation above the point of obstruction, which would otherwise press upon and increase the invagination while hindering our efforts to effect reduction.

What means are at our command in the attempt to reduce the invagination?

The first and most efficient is distention of the bowel below the obstruction, by fluid or by air. Cases of recovery have followed both these modes, but by far the greater number have been due to inflation.

While this is as old as Hippocrates, who recommended it, it has only been in the last ten or fifteen years that it has been revived—first in America, and subsequently in England—and its value fully recognized. Within that time, a large number of successful cases by this means have been reported. It may be readily accomplished with an ordinary Davidson's syringe. It should therefore be resorted to in every case. But, for its success, it should be tried early, before adhesions have taken place. This is especially important where the indications of strangulation are marked. It is no longer admissible, if we have reason to suspect that gangrene of the invaginated bowel has set in. As pointed out by Mr. Jonathan Hinchinson, success by inflation is prompt, if at all.

In those cases where the bowel has prolapsed to such an extent as to be felt in the rectum, the introduction of an elastic bougie has occasionally been successful in pushing back the invagination.

Aitken cites a very remarkable case of this kind, in the hands of Dr. Osborne of Bitterne, in which the bowel, which could be reached by the finger, receded before the bougie, seemingly independent of any pressure, and the patient recovered. But this would only be applicable to the class of cases indicated above, and would succeed, perhaps, in but few of those.

Kneading the abdomen while the lower bowel is distended with fluids has also occasionally proved successful.

Having failed to accomplish reduction of the invagination, we are called upon to see our patients sink rapidly to death, or pass through the perilous process of gangrene and sloughing of the involuted bowel, or, perchance, be worn out by protracted irritation and pain. All that is left us to do, while awaiting the issue of nature's effort, is to give opiates to relieve pain and control peritoneal inflammation, while we endeavor to sustain the patient by beef tea, milk, and such articles as leave but little residuum, giving stimulants as circumstances require, and

making applications of hot fomentations over the abdomen.

Lastly, we come to the consideration of the third resource at our command :

Laparotomy.—*Post mortem* examinations have so frequently revealed the facility with which the bowel could be reduced, that the propriety of an operation with that object in view has long been entertained by surgeons.

Yet it must be admitted that the bulk of authority has heretofore been against such interference. Indeed, most of the standard works upon surgery ignore it as a surgical affection, or pronounce against it. Brinton, in his work upon "*Intestinal Obstructions*" (1867), is emphatic against it.

Mr. Geo. Pollock, of St. George's Hospital, says, "the proposal to open the abdomen should not be entertained" (*Holmes' Surgery*).

Dr. Ashhurst, in his "*Surgery*" (1871), says, "the surgeon will, in my judgment, best consult the interests of his patient by declining operative interference."

In an admirable article in the *American Journal Medical Sciences*, for July, 1874, however, in which he reviews the history of the operation, he modifies this statement, and no longer considers the operation as never justifiable, but still thinks "it can only be properly resorted to in very exceptional cases."

These he states to be cases occurring "in adults, or, at least, not in very young infants, in which the symptoms are those of obstruction merely without intestinal hæmorrhage or peritonitis, when, other measures having failed, the question of operation may be properly considered."

Dr. Hilton Fagge, in a paper published in *Guy's Hospital Reports* for 1869, says, "in intussusceptions an operation can only do harm."

The best evidence of a recantation of these views is found in the fact that he contributes, within the last twelve months, two cases to the statistics of this operation, one of which was successful. (*Lancet*, December, 1874, and *American Journal Medical Sciences*, April, 1875).

Dr. Ashhurst, in his paper above referred to, has collected 13 cases in which the operation has been performed, to which he has subsequently added 3 more, making 16. (*American Journal Medical Sciences*, July, 1874, and January, 1875). To these are

to be added the two cases of Dr. Fagge, making a total of 18 cases, with 12 deaths and 6 recoveries. Among this number 3 were infants under 12 months, all of whom died. From this he deduces the conclusion that "no encouragement is afforded to repeat the operation in very young infants."

Mr. Jonathan Hutchinson has long been an advocate of the operation under certain circumstances; and upon reporting a case to the Royal Medico-Chirurg. Society, November 11, 1873, of a child 2 years old, upon which he had operated successfully, he formulates his conclusions in his usual clear and forcible style. (*See Am. Jour. Med. Sciences*).

There is no question, I think, that the profession will endorse the conclusion reached by him, that "the operation is to be strongly recommended in those cases which have persisted for a considerable time, and in which the intestine is only incarcerated," having, of course, first fairly tried inflation, &c. Dr. Ashhurst, as we have seen, gives a cautious and limited assent to this.

With these limitations there would still be a large number doomed to perish without any attempt at relief.

I do not believe this will long be the limit of surgical interference.

I do not doubt that a more prompt recognition of the difficulty and an earlier resort to operation will, in the future, give much better results.

The case of Mr. Hutchinson, cited above, and successful cases of ovariectomy in young children, show that operations in the abdomen, in quite young children, may be successfully performed. And, in view of the appalling mortality of intussusception in infants—86 per cent.—it must be shown that mere incision into the abdomen, in children under 12 months, is almost inevitably fatal, to exclude even that tender age from the chances which laparotomy may afford under favorable conditions.

An examination of the fatal cases in Dr. Ashhurst's table does not, to my mind, establish this. Then, too, if the existence of peritonitis is no bar to the performance of ovariectomy, why should it be, *per se*, in intussusception?

A careful consideration, too, of Dr. Ashhurst's table, will show, I think, that the very mortality upon which objection to the

operation has been based, has been due to causes that might, in great part, have been avoided, perhaps, by earlier resort to the operation.

Let us take the fatal cases in the order in which they are reported :

The first (iii. of the series), aged 50, had had intussusception for *eleven days* ; and the bowel, which, at times, protruded from the anus, had been cut through before the operation, by one of the surgeons, without the knowledge of his *confrères*, to the extent of an inch, so that the epiploic appendages could be seen and the small intestines felt through the opening. Is it surprising that there was a *post-mortem*, and that it revealed peritonitis and gangrene of the bowel ?

In the second (v. of the series), a child 12 weeks old ; the duration of the disease is not mentioned ; but, after a foot of the bowel had been withdrawn, it gave way at a gangrenous spot, and the operation was abandoned. In this case strangulation had existed until gangrene occurred, before laparotomy was resorted to.

We are told the little patient "*remained lively for awhile*," but died the same evening. Evidently, it did not die from the shock of the operation. Nor can death be attributed to its tender age. Such conditions would have killed an athlete of 30.

In the third case (vii. of series), aged 3½, a large portion of the gangrenous intestine was protruding from the anus at the time of the operation, and it was only undertaken with the hope of forming an artificial anus.

In the fourth case (viii. of series), aged 4 months, we are told the intussusception, which could be felt through the rectum, had existed for more than *four days*, and that the child was almost moribund at the time of the operation. What would be thought of the propriety of postponing an operation for the strangulated hernia until the 5th day, where the symptoms were urgent, as in this case ? What else than a fatal termination could be anticipated under such circumstances ?

In the fifth case (ix. of series), neither the age nor the duration of the symptoms is given ; but it is stated that disinvasion was impossible on account of the firmness of the adhesions.

In the seventh case (xi. of table), a child, no particulars are given.

Tabular View of Five Cases of Laparotomy for Invaginated Bowel.

(Reported subsequently to the publication of Ashhurst's table of 13 cases).

No.	Age and sex of patient.	Operator.	Symptoms before the operation.	Duration of Disease.	Result.	Duration of life after operation
14	5 mths	Duncan	Not mentioned	Not specified	Died	Fatal on 2d day
15	Not given	Anerum	"	"	Died	"
16	"	Carrier	"	"	Died	"
17	Female adult	Eagge	Severe pain, with tumor in iliac fossa, but no constipation, and only very slight sickness	10 or 15 days	Recovered	"
18	Not obtained	Fagge	Sudden internal strangulation, with collapse	Short time only	Died	2 or 3 hours

In No. 18 an exploratory operation discovered a small intussusception, which was reduced, but patient died of collapse.

*See *Edinburgh Medical Journal* for June, 1871; *Charleston Medical Journal* for October, 1874; *American Journal of Medical Sciences*, July, 1874, p. 285. January, 1875, p. 218, and April, 1875, p. 557.

In the eighth case (xii. of table), a child aged 6 months, the operation was performed on the *fourth day*, the parts were deeply congested, and disinvagination was effected with great difficulty.

I submit the question whether any operation could be fairly judged by a series of cases performed under such discouraging circumstances?

Mr. Hutchinson has, I think, foreshadowed what will be the verdict and the course of action of surgeons in the near future, when he says, "In cases of intussusception in young infants (under one year of age), the prognosis is very desperate, scarcely any recovering, excepting the few in whom injection treatment is immediately successful, whilst a large majority die very quickly. The fact just mentioned may be held to justify, in the case of young infants, very early resort to the operation."

In conclusion, I believe the same principle will, in the future, be applied to intussusceptions as is now applied to strangulated hernia: when proper efforts at reduction have been fairly tried and have failed, *to operate*—and the more urgent the symptoms the earlier;—with this exception, however, that, whereas, when gangrene has occurred in strangulated hernia we still operate, in intussusception an operation is thus absolutely contraindicated.

1063 Olive Street, St. Louis.

APHONIA—ITS CAUSES AND TREATMENT.

BY WM. PORTER, M. D.

(Concluded from page 20.)

Of the constitutional diseases which give rise to change in the vocal cords, the most common are phthisis and syphilis. In a given number of cases of the former, perhaps one-third will have laryngeal complication. In 193 cases of phthisis, Louis found ulceration of the larynx in 63. The post-mortem records of Guy's Hospital, for the last six years, show that in 47 out of 145 cases of phthisis the larynx was affected, and in 100 cases reported by the writer* 57 had evidence of change in the larynx. In Flint's recent work on phthisis 61 out of 670 had laryngitis, and the author remarks that it may have occurred in a greater or less number after they had passed from under observation. He concludes that chronic laryngitis is of frequent occurrence in cases of phthisis, and the changes incident thereto occasion permanent huskiness of the voice, if not aphonia.

In most of the cases, the laryngeal disease is secondary to the pulmonary, and it is rare to find the former without signs of the

*See Medical and Surgical Journal for January, 1875.

latter. In the earlier stages there may be simply anemia, and, according to Marcet, a dotted or granulated appearance of the epiglottis, the voice will be weak, with want of clearness in the higher notes. Soon after there may be noticed a slight thickening of the mucous membrane over the arytenoid cartilages and about the epiglottis. In a marked case there may be infiltration and deposit of tuberculous material. I saw recently a larynx which had been removed from a man who had died from pulmonary tuberculosis, in which the mucous membrane under the epiglottis, and on the surrounding folds, was dotted over with small patches of tubercle.

As the case proceeds the thickening becomes more general, the vocal cords lose their clearness and brilliancy, the voice is hoarse, and the amount of secretion is increased. Ulceration occurs in one part or another as the malady advances, usually first discovered about the arytenoid cartilages, or on the epiglottic folds. When the vocal cords are attacked by ulceration, the power to produce clear voice sound is lost. The arytenoid cartilages and the intra-arytenoid folds are sometimes so greatly thickened as to prevent approximation of the cords, and in this way aphonia may result, or the cartilages may become necrosed, giving rise to the same result, with increased expectoration and dyspnoea.

When a good view can be obtained it will generally be seen that the posterior parts of the larynx have suffered the most. The ulcers are surrounded by more or less thickening of the adjacent parts. Sometimes even projecting points of necrosed cartilage may be seen exposed or bathed in pus. As a rule, the laryngeal disease goes on at an equal pace with the pulmonary, although it often happens that a patient seems hurried to his grave by the difficulty of breathing, and swallowing, and all the various sources of distress, in this fatal malady.

As laryngeal phthisis is only a local expression of a constitutional fault, the treatment must be directed chiefly to the disease itself. And it would be out of place to discuss the treatment of pulmonary phthisis here. Locally, in the earlier stages, avoidance of all sources of irritation, and rest of the parts, are advised, but topical remedies are of little value. When once ulceration has set in, however, much good may be done by the inhalations of steam, or the vapor from infusions of hops or stra-

monium. A local application of equal parts of extract of opium and extract of belladonna in 40 parts of cherry laurelwater, when the irritation and dysphœa are great, sometimes does well. The small ulcers may be touched with nitrate of silver, and Marcet advises scarification of the thickened parts. Gelsemium seems to have a soothing influence in those cases where the cough is troublesome and persistent. It is best used in doses of not more than 8 drops, frequently repeated. If there is huskiness or weakness of the voice, the laryngoscope is as necessary as the stethoscope to the complete examination of the patient. In all these cases the voice must be little used, if at all.

Syphilitic affections of the larynx producing in many cases aphonia are frequently met with. Durham states that from 30 to 40 per cent. of the cases of laryngeal disease in the out patient practice at Guy's Hospital, are due to syphilis, and this tallies with observations made elsewhere. During the stages of syphilis the condition of the larynx generally coincides with the disease in other parts of the body.

Erythema of the mucous membrane often accompanies syphilitic roseola, the part affected presenting a red, swollen, and sometimes œdematous appearance. This condition is found at first on the fauces and epiglottis, and with it we find that crescent inflammation of the palatine arches, considered so indicative of syphilitic taint by many writers.

Condylomata, or mucous patches, which can be distinctly seen by aid of the laryngoscope are sometimes seen in the papular, squamous, and above all in the tubercular forms of the disease. These morbid projections are papillary formations, uneven, whitish, jagged prominences, of various extent. They are found most frequently on the vocal cords, and intra-arytenoid fold, that is to say, in those parts most exposed to friction. Gerhardt and Roth state that in 8 out of 54 cases of syphilis in the Würzburg Hospital, the hoarseness was due to the presence of condylomata, while Mackenzie found but two cases of this kind in 52 examined at the Lock Hospital.

That peculiar kind of voice so characteristic of this disease is mostly due to the existence of one or the other of these conditions, but most frequently to the former, the erythematous condition of the mucous membrane. Ulceration rarely occurs in the second stage unless the patient is weak and broken in

health. The diagnosis of syphilitic laryngitis in the second stage is as a rule easy. The history, the crescent inflammation on the posterior arches of the palate, the dusky hue, and the presence of condylomata, when they exist, will give a sufficient clue to the case.

The treatment is almost purely constitutional. Mercury, in one form or other, soon produces a decided improvement in the general symptoms, and with them disappear the laryngeal inflammation, and the hoarseness or aphonia. If condylomata or erosions are present, perfect rest and quiet of the voice must be observed till the trouble is removed.

In tertiary syphilis the larynx is often affected to a much more serious extent. Ulcerations, either superficial or deep seated, are common, and may be single or several may appear together. The epiglottis is generally first attacked, and the false and true vocal cords may be deeply ulcerated; but the arytenoid cartilages, and the posterior part of the larynx, are less liable to syphilitic than to phthisical disease. The symptoms of syphilitic ulceration of the larynx are hoarseness or aphonia, according to the amount of disease—sometimes slight dysphagia and pain in the throat. Tertiary ulceration here is sometimes difficult to diagnose, especially if the constitutional symptoms are not well marked. It is most liable to be confounded with epithelioma and phthisis. The differential diagnosis of the three diseases in the ulcerative process is as follows:

In ulceration from syphilis the mucous membrane of the palate is most liable to be first attacked, and afterwards that of the epiglottis and surrounding folds. Infiltration and destruction of tissue go on rapidly and deeply, and the edges of the ulcers are red, thickened, and undermined. The thickening does not extend far beyond the margin of the ulceration, or in those parts not as yet invaded by ulceration, and is seldom extensive. The expectoration is thick, yellow, and accompanied by a putrid odor.

In epithelioma the ulceration is, as a rule, first seen outside the larynx, either on the edge of the epiglottis or on the membrane covering the outer surface of the arytenoid or cricoid cartilages, and rarely within the larynx. As the growth increases marked and irregular thickening is seen around the ulcer, which presents a dirty grey appearance, with raised edges. The pre-

gress of the disease is slow, but steady. In the early stage the expectoration is slight, but when the ulceration is at all extensive it becomes exaggerated and mixed with blood and pus.

In *phthisical ulceration* the first inroad is made in the mucous membrane over the upper and inner portions of the arytenoid cartilages, and on the ary-epiglottic folds. The epiglottis is not at first ulcerated, but is often thickened, and dotted over with small patches of infiltration. The thickening is characteristic. The distinct outline of the arytenoid cartilages is lost, the ary-epiglottic folds look like large solid tumors, and the intra-arytenoid fold is often absorbed in the general thickening. The progress is slow, and when any considerable surface is destroyed, the ulcer presents a ragged, worm-eaten appearance. There is more expectoration than in malignant disease, and it is more frothy and thinner than in ulceration from syphilis.

In all these diseases the vocal cords are liable to thickening or ulceration sooner or later, and then, if not before, aphonia results. The constitutional symptoms and history of each case, aided by the above points of local interest, will make a correct diagnosis almost always possible.

The best general treatment in tertiary syphilis is, without doubt, iodide of potassium, with or without ammonia, and if needed, a tonic added. Locally the application of sulphate of copper in solution if there are superficial ulcerations, or, if deep ones, they may be touched with the solid nitrate of silver. If the parts are much swollen a scarification may do good, and when the breathing is severely affected tracheotomy must be resorted to. In some cases, where the ulceration has been extensive, such is the tendency of the cicatrices to contract, that permanent impairment, and even loss of voice is the result. I remember two cases in which the aphonia was complete and lasting owing to this cause.

In the acute exanthemata we now and then find laryngeal complications, sometimes accompanied by aphonia. The throat affection generally partakes of the character of acute laryngitis which we have already discussed, modified by the form of the disease. But these cases are individual ones and aphonia is not a constant symptom.

We will leave this class of diseases with merely a glance, and consider our third division of the causes of aphonia; those conditions which impair the action of the laryngeal muscles. This impair-

ment may be due either to mechanical obstruction, or to want of nerve power. Mechanical obstruction may be the result of infiltration of the muscular tissue with phthisical syphilitic or other deposits, to a growth preventing the movements of the muscles, or to a thickening of the mucous membrane from chronic inflammation, and I will not intrude on your patience to repeat anything of what I have said in reference to these conditions.

A foreign body in the larynx may cause aphonia, by becoming so fixed as to prevent the approximation of the cords. Great care must be exercised in its removal, lest it should be detached, and fall further down in the trachea. Unless the surgeon has the greatest confidence in himself and his patient, and the intruding substance can be easily reached, tracheotomy must be done, when, if removal is not effected by the coughing and spasm attending the operation, it may be accomplished by passing the finger or a probang upwards through the artificial opening. Recovery from the operation in such a case is generally rapid.

Want of nerve power in the motor system in the larynx may give rise to aphonia, from non-action, either of the adductor muscles—the cords not moving towards the median line when phonation is attempted—or in the tensor muscle, the cords not being put upon the stretch when they do approximate. In other interesting forms of paralysis of the laryngeal muscles, especially in that which affects the abductors, aphonia is not necessarily present, and to speak of them would be a sin of commission less easily forgiven, perhaps, than one of omission.

Paralysis of the adductor muscle of the vocal cords (the crico-arytenoideus lateralis and the arytenoideus proprius) may be bilateral or unilateral. The former is the more common. The causes are hysteria, debility and cerebral disease in the order mentioned. The most prominent symptom is the loss of voice. When examined with the laryngoscope the cords are seen to remain fixed to the side of the larynx, or there may be but slight movement toward the median line. In most of these cases, except, of course, where it is a symptom of brain mischief, the prognosis is favorable. General tonic treatment is indicated, but the most reliance is placed on the local applications. These

may be of three kinds—1st, the inhalation of stimulating vapors, as creasote or ammonia. Prof. Pancoast employs, with good result an inhalation of chlorine, but the others are safer. 2d. The local application of a mineral astringent, as nitrate of silver, or perchloride of iron in solution, and 3d and best, the direct application of galvanism to the vocal cords as recommended by Dr. Mackenzie. This is done most successfully by means of his electrode. A small metal plate is fastened by a band over the cricoid cartilage and connected with one pole of the battery, while the other is attached to the electrode which is introduced into the larynx. Communication is made by touching a spring. The effect is marked. Dr. Mackenzie reports but 4 cases in 200 which have resisted this treatment. I have seen cases in which the aphonia had existed for five, six, and even more, years, receive marked benefit from one application, or, rather, several applications at one time.* Generally the application must be repeated several times, but the result is almost always satisfactory. I am aware that sometimes the mere introduction of an instrument into the larynx, nay more, a sudden fright, or in a moment of excitement, the voice may be recalled. But these are exceptional instances. That the direct application of galvanism is rational, as well as effectual treatment, no one will perhaps deny.

Unilateral paralysis of the adductor muscles is much less frequently met with. It is most generally due, either to cerebral disease, or to pressure on the recurrent nerve of the affected side. The latter condition, however, more frequently gives rise to paralysis of the abductor muscles. The symptoms are similar to those met in bilateral paralysis, but less marked. The cord of the unaffected side will, on phonation being attempted, be seen to approach the median line, while the other remains unmoved, thus leaving an opening between the cords on the paralyzed side of some considerable extent. The prognosis, owing to the cause, should be guarded, and the local treatment the same as that of bilateral paralysis, but it is less frequently successful. Paralysis of the tensor muscle (the crico-thyroideus) frequently accompanies the forms of disease just mentioned, or it may occur alone. In the latter event it may result from pre-

*In a case reported by the writer (*Med. and Surg. Jour.*, Oct., 1874) aphonia had existed for eleven years, and entirely disappeared after but two applications of electricity.

vicious inflammation, but is generally caused by over exertion of the voice. The symptoms are weakness of the voice with sometimes complete aphonia, or the aphonia may only appear after a few minutes use of the voice. On inspection, the cords when approximated, may be seen to lie loosely near the median line; the edges not looking sharp and tense as they should, and there may be a dirty grey color of the surface of the cords. The application of galvanism, and in severe cases of a blister over the thyroid cartilage, with rest of the voice, is generally sufficient to effect a speedy cure.

In follicular disease of the mucous membrane of the throat we find want of action in the muscles of the larynx, often due to reflex nerve action, quite as much as to the mechanical obstruction, or change in the vocal cords. Thus in some cases of speakers' sore throat, (so-called), the changes in the larynx—mentioned before—are absent, and we have only the pharynx involved; or the mucous membrane of the larynx may be effected, but to such a slight degree as not to present any obstruction to free movement. In this disease, first described by Dr. Horace Green, the glandular follicles are hypertrophied, and the surrounding tissue at first infiltrated, afterwards atrophies, leaving the follicles prominent on the surface. It is reasonable to believe that in such a case the impression received by the branches of the pneumogastric nerve at the seat of the lesion is reflected through the main trunk, and shown at other points of distribution.*

It would not be proper here to attempt to follow this interesting form of throat disease to its source. In regard to treatment, as there is almost always want of nerve power in the affected parts, and it may be general debility, good will be derived from the use of phosphorus—the dilute phosphoric acid—or better still, Horsford's liq. acid phosphate, combined with other tonic treatment. Good food, rest and pure air are also essential. Locally perhaps nothing is more effective than the exhibition of benzoic acid. This may be given in a lozenge to be dissolved slowly on the back of the tongue. The enlarged follicles may be destroyed by nitrate of silver, or by a crystal of chromic acid pressed against each one with a glass rod. As soon as the

*Cohen on Diseases of the Throat, p. 164, *American Journal Medical Sciences*, Jan. 1876, p. 84.

local irritation is removed the power of producing healthy voice sound is increased, though it may be a longer period before the nerve force is completely evolved and phonation unimpeded.

And now a word in recapitulation. For convenience I have considered the causes of aphonia, as affecting one of three factors in the formation of voice.

Those impairing the first element—the supply of air—are phthisis, debility and tracheaotomy.

Those that alter the condition of the second—the outline or elasticity of the vocal cords—are divided into local and conditional affections. The former are acute and chronic inflammations and morbid growths; the latter, phthisis, syphilis and the exanthemata.

Of the third and last class—those which impede the action of the muscles moving the cords—especially the adductors and tensors—we have just seen the principal members are mechanical obstruction, bilateral and unilateral paralysis of these muscles, and possibly a reflex nerve action from irritation elsewhere.

In the foregoing article our chief aim has been to simplify the classification of the causes of aphonia, and hence render the indications for treatment more intelligible to the general practitioner.

1217 Pine Street, St. Louis, Jan. 24, 1876.

Original Translations.

From Volkmann's Sammlung Klinischer Vorträge.

SUBSTANCE OF A LECTURE BY PROFESSOR G. SIMON, OF HEIDELBERG, ON THE METHODS OF RENDERING THE FEMALE BLADDER ACCESSIBLE, AND ON THE CATHETERIZATION OF THE URETERS.

In order to remove calculi and other foreign bodies from the bladder, resort has been had to various operations—bloodless dilatation and section of the urethra, vesico-vaginal, and vestibular section, and the high operation.

Of these methods, only two are recommended for the facility

with which they permit, not only foreign bodies to be removed, but diseases to be diagnosticated and treated.

Dilatation may be accomplished gradually, or at once, in a few minutes. The rapid mode is preferable, because the long retention of a bougie is apt to produce inflammation and swelling of the urethra.

The observation that the urethra admitted of dilatation was very early made. Wildt, who describes my procedure, in the "*Archiv für Klinische Chirurgie*," gives many citations. I will refer in addition to Franco (*Traité des Hernies*, 1861), Fabricius Hildanus, Peter Dionys and Bertrandi. Sir A. Cooper five times removed calculi through dilated urethræ. Hybord (1872) describes the process of dilatation, and declares the introduction of an instrument greater than 3 or 4 Ctm. in circumference impossible. Christopher Heath's plan was to first introduce his little finger, afterwards his index finger, giving it a rotary motion.

Notwithstanding these observations dilatation did not become popular, because of the limited indications, and fear of the resulting incontinence. My method, developed through a long series of experiments, has, I believe, dispelled these objections.

The orifice is the narrowest and most unyielding part of the urethra, and it is seldom that the finger can be introduced without using great force. I generally make two incisions in the upper margin of the orifice 1-4 Ctm. deep, and one below 1-2 Ctm. deep. The finger being thicker at its base unless these incisions are made, will lack at least 1 Ctm. of penetrating its entire length. The incisions are best made with a pair of scissors. No harm can come of this slight operation. Few muscular fibres are divided, the little muscles heal, and in the future they obviate the use of chloroform.

For dilating I use seven sizes of hard rubber bougies, the largest being 2 Ctm. in diameter, the smallest $\frac{3}{4}$ Ctm. After using these I introduce my index finger without difficulty, taking care, at the same time, to introduce my middle finger into the vaginal; for in this way the bladder may be more deeply penetrated, the urethro-vesical septum pressing the commissure of the finger. I also press, with my other hand, upon the base of the bladder.

The fear of incontinence has interfered to such an extent with bloodless dilatation, that Hybord, (1872) after careful research, only found twelve cases where the operation had been performed for the extraction of stone. Knowing this, I set to work to discover how far dilatation might safely be carried. Hybord and Spiegelberg are the only authors who have given definite estimates. No practical benefit can be derived from their statements, because they differ so widely. Hybord says it is unsafe to dilate beyond 3-4 Ctm. circumference, 1-1.3 diameter; Spiegelberg says 2.5 Ctm. diameter, = 7.8 Ctm. circumference, and even beyond this. The bounds prescribed by Hybord are absurd, for even a child's finger is 3 or 4 Ctm. in circumference. My numerous observations have taught me that bougies 1.9--2 Ctm. diameter, = 6-6.3 Ctm. circumference, may be used without any disaster worthy of mention. Slight ruptures of the mucous membrane may result, but these heal in a few days. Authors who have mentioned the removal of calculi have invariably neglected to state whether incontinence resulted or not. I have arrived at the conclusion that in girls from 11 to 15 years old the urethra may be dilated 4.7-5.6 Ctm. circumference, = 1.5-1.8 Ctm. diameter; from 15 to 20 years, from 5.6-6.3 = 1.8-2 Ctm. diameter, and that in only exceptional cases. The objects to be attained by dilatation are :

(1.) The diagnosis of diseases of the mucous membrane of the bladder by palpation. Illumination of the interior of the bladder with the calcium light becomes of practical importance, for the finger having determined the site of the disease, the light can be intelligently directed.

(2.) Very small stones may be felt and removed. Heath sought in vain with instruments for a stone which he easily found and removed with his finger.

(3.) Formerly calculi were sought to be grasped without the guidance of the finger. Now the instrument may be introduced along with the finger. Lithotripsy will be more available, and the dangerous operation of urethetomy will fall into disuse.

(4.) Caustic applications may be made in obstinate cases of chronic vesical catarrh.

(5.) For the cure of fissures of the urethra. Heath adopted with good results, the plan of dilatation with cauterization. Spiegelberg pursued the same course. I cannot say that I have been uniformly successful.

(6.) The diagnosis of vesico-vaginal fistula in closed vagina. Wildt mentions a case in which by palpation I pronounced a vesico-vaginal fistula curable, opened up the artificially closed vagina, and cured the fistula by bringing its margins together. I have since treated a second case of the kind with good results.

(7.) The diagnosis of the location and extent of tumors, and swellings between the bladder and vagina. In the numerous cases of carcinoma of the uterus in which the vesico-vaginal septum is implicated, it is important to know whether the mucous membrane of the bladder is involved, for, unless this is intact, the tumor cannot be removed without opening the bladder.

(8.) The extirpation of tumors, especially of papillomata in the walls of the bladder.

(9.) Renal calculi which happen to be arrested near the orifices of the ureters may be diagnosticated and removed, either by incising the orifice of the ureter or by making an incision through the mucous membrane of the bladder.

10. The opening of an Hæmatometra, whose evacuation between the bladder and rectum is impossible or too dangerous, on account of the congenital absence of the whole or a part of the vagina. In such cases Scanzoni evacuates the collected menstrual blood through the rectum. The peritoneum is invariably wounded by long incisions, and openings by trocars close, and relapse occurs. If opened through the bladder the peritoneum is unharmed. Nöggerath's trocar is very useful for the purpose.

(11.) The cure of the painful and otherwise ultimately fatal vesico-intestinal fistulæ of large and small intestines. A fistula is easily found by the finger passed through the dilated urethra, and caustic applications made, guided by the finger or endoscopic illumination.

Correspondence.

VIENNA, AUSTRIA, DEC. 1875.

Editors St. Louis Medical and Surgical Journal :

A few notes from this medical centre in relation to medical and surgical matters in general, which the pressure for time compels me to throw hastily together, may, as I hope, be not without some interest to your readers.

To those interested in surgical matters, the clinic of Prof. Billroth has much of interest. Prof. Billroth, as is well known, is a believer in "Lister's antiseptic method;" but this method, owing to the expense which it entails, is only carried out in a very partial manner. Yet as a whole the success of Billroth is quite marked: and thus far during the present semester only two cases of pyæmia have occurred in his wards, one of which I will briefly mention simply to introduce some remarks of Prof. Billroth upon the best method of procedure, where, during an operation, a venous branch is divided near its entrance into one of the principal veins of the body. The case was that of a woman whose right mamma had been removed about a year previously on account of carcinoma. The wound healed favorably but was followed by the reappearance of the disease in the axillary glands; and the operation was to remove these. During the operation a considerable venous branch was divided near its entrance to the upper portion of the axillary vein. Prof. Billroth then spoke upon the best method of procedure under such circumstances; and believed that it was always best in such cases to tie the *main* vessel above and below the entrance of the divided branch. For, as he said, if the divided branch is tied, there is danger that the thrombus which forms in the ligated vessel and projects into the main trunk will be swept away by the current of blood in the latter and produce embolism in other parts of the body, or that phlebitis may be readily set up, or that if the wound progresses unfavorably, pus or ichorous juices may easily find entrance into the blood and thus produce pyæmia with its fatal results.

As to this particular patient, she bids fair to die from the latter disease, or at least will be blind, as now, in the course of the second week after the operation, metastatic abscesses have appeared in both eyes.

Resections of the hip- knee- and elbow-joints are performed quite frequently, the patients, in nearly all cases, being children, and, so far as I have seen, the results have been very favorable even in the most unpromising cases. As to the methods of operation in the resection of these joints, it does not differ from those laid down in the principal text books on surgery. Fractures in almost all cases are put up in plaster-of-paris bandages; cold being applied by means of rubber ice-bags over the seat of injury until the danger of active inflammation has passed away, or, if the fracture is compound, the bandage is fenestrated over the wound and Lister's dressing is applied. Large ulcerated surfaces, such as chronic ulcers of the leg, burns, etc., are treated by grafting; the grafts being taken from amputated limbs, the skin from which, Prof. Billroth says, may be used for this purpose with success as late as twenty hours after amputation. The whole thickness of the skin is taken and the grafts are by no means small; I have seen grafts $\frac{1}{4}$ of an inch square transplanted with success. The fact that infectious disease may be transmitted in this manner is not to be lost sight of; as a case is mentioned in *Ziemssen's Hand-book of Med.* (Vol. II, Part 2, p. 312) where variola was in this manner transmitted during the period of incubation. A case occurred at the clinic of Prof. Billroth a few weeks ago, which deserves the notice of all surgeons, for the nature of the disease, the diagnosis, and the nature of the complications which presented themselves *post-mortem*. The case was as follows: A man was presented at Prof. Billroth's clinic on Wednesday, who had voided no urine since the previous Friday—five days. On Sunday he suffered a few slight rigors, but there was no vomiting or drowsiness; nor did the man complain of much pain or distress in any particular. A catheter was introduced into the bladder and no urine flowed out. Upon examination of the abdomen, a tumor was detected above the bladder, and to the right of the median line of the body. Taking the history of the case, which was almost null, and the slight symptoms of grave disease which were present, then, by a process of elimination, Prof. Billroth proceeded to demonstrate

that the obstruction was not due to nephritis, kidney-stone, or to occlusions of the ureters by tubercular masses which had broken loose from the pelvis of the kidneys; but must be due to the pressure of a tumor upon the ureters; and, from the length of time which the obstruction had been present, that the tumor was an abscess; and, further, that the abscess was retro-peritoneal. Having made this diagnosis, the patient was chloroformed, and Prof. Billroth introduced his hand into the rectum and detected a fluctuating tumor above and behind the bladder. He introduced a curved trocar and canula along the finger and punctured the abscess. Ten or twelve ounces of a thin grayish colored pus flowed out with considerable force; and the instant that the pressure upon the ureters was thus relieved, a stream of clear urine flowed from the catheter, which during all this time had remained in the bladder. All were astonished at the diagnosis and its results, and Prof. Billroth said that owing to the fact that the cause of the abscess was yet unknown he could give no prognosis as to the final result. A drainage-tube was introduced through the canula into the abscess, but it passed away the first time the man went to stool.

The next day after the operation, the patient had voided more than three pounds of a clear, amber-colored urine, and seemed to be doing well. On Saturday the patient was not doing well. He was vomiting, the flow of urine had diminished, and in the evening the temp. rose to 40° C.; this state of affairs continued on Sunday, and on Monday there was a complete retention of urine. The patient on this day was again chloroformed. Prof. Billroth judged it would not be possible to keep the abscess drained by a drainage-tube through the rectum, so he made an incision about four inches long, parallel with, and about an inch above Poupart's ligament, into the abdominal cavity, pushed the peritoneum upwards and came upon the surface of the abscess from within. The hand was then introduced into the rectum as before, and a long curved trocar and canula carried along the finger, pushed through, the abscess and made to emerge through the external wound. A draining tube was then carried through the wound by means of the canula, the abscess washed out, and the external wound closed; one end of the drainage-tube emerging from the external wound the other from the anus. The patient continued to grow worse and, during the night following the operation, died.

The *post mortem* examination, which followed on the next morning, showed that what was taken for an abscess was the dilated pelvis of the right kidney (pyelonephritis). The kidney occupied an abnormal position in front of the promontory of the sacrum. Its ureter was not half the normal length. The sac which the dilated kidney formed extended to the left, so as to lie upon the ureter ; the external surface of the sac was covered with a thin layer of cortical substance. The left kidney had evidently for a long time performed double function, as it was found to be nearly twice the usual size.

Prof. Billroth's new book (*Ueber Lehren und Lernen der Medicinischen Wissenschaft an die Universitäten der Deutschen Nation*) has caused great excitement here. He is well abused by a part of the press, which calls him a Prussian and tells him to go home. He has made himself particularly obnoxious to the Jewish students, of whom there are many at the Vienna school. Many of them have commenced the study of medicine without any proper preliminary education, and pass their time in almost anything but study. Prof. Billroth refers to these in strong words, as having "*Gehirne von Lehm und Hände von Blei*," (brains of clay and hands of lead), who lose what little sense they have when they come to an examination, and thinks such, to say the least, should not study medicine. There have, since the appearance of the book, been many signs of a demonstration against Prof. Billroth, which culminated in a disgraceful scene a few days ago. The disaffected, armed with whistles, set up a noise as soon as he entered his lecture room, and cried, "*Hund ! Hund !*" Those who wished to hear the lecture endeavored to maintain order, but, this failing, it became a matter of hands and fists. The disturbers were soon put out, and the lecture went on.

Since then, tickets to Prof. Billroth's clinics are demanded at the door. It is hard to tell how the matter will end ; but, at least, Prof. Billroth has hurt the sensibilities of some very deeply, by putting the truth in strong words.

THOS. FOX, M. D.

Hospital Reports.

CITY HOSPITAL.

January 6.—Lead Poisoning.—P. Gervais Robinson, M. D., Professor of Clinical Medicine of the Missouri Medical College.

GENTLEMEN: The patient before us affords the opportunity to study that peculiar form of poisoning which comes from the introduction of lead and its combinations into the system.

In this case such an array of well marked phenomena is presented as to render the diagnosis absolutely certain. He is an American, 35 years of age, a single man, has enjoyed very good health generally, and has not at any time suffered from serious illness. His family history shows no predisposition to any special form of disease. He has been employed in a lead factory for the last six weeks, in drying the powdered white lead; was admitted into hospital two days ago suffering from colic.

He now tells us that his colic continues, varying in severity from time to time, that his bowels have not been moved for five or six days. Upon examination we see that there is a distinct "blue line" upon the gums, and, on testing the strength of the extensor muscles of the wrist, we find that there is very considerable loss of power, so that he can resist very little opposition to the extension of the hand, although he has by no means that condition termed "drop-wrist." There is some jaundice, which is best appreciated by observing the sclerotics of the eyes.

I will suggest for our patient the following draught:

R Olei Ricini, ʒijs,
 Hydr. Chlor. Mitis, grs. x,
 Tinct. Opii, gtts. xx.
 M.

S. To be taken at once.

As soon as his bowels have been freely opened I would advise that he be put upon the Iodide of Potassium, in ten-grain doses, repeated 3 or 4 times a day. The oil is given as being a gentle but efficient cathartic. We add the calomel in view of the jaun-

dice present, to increase more surely the excretion of bile ; for, notwithstanding the denial has been made as to any cholagogue action of mercury upon the liver, based mainly upon theory, still, we confidently believe that this drug does exert such an influence ; "*experimentia docet*," and we use it accordingly. The laudanum is added with a two-fold object—to relieve pain, and to assist catharsis by the relaxation of intestinal spasm.

As you have seen, the case before us is simple and easy of diagnosis, since the history affords the most explicit and direct information as to the cause of the phenomena constituting the disease we call saturnine (*saturnus*, lead) poisoning. You might suppose, then, that you can scarcely ever err in your appreciation of such cases ; but when you learn the many sources from which this subtle poison may find its way into the system, you will readily perceive that cases may occur in which, from defective history, no cause can be assigned to account satisfactorily for the effects ; and so, especially in the advanced stage in which paralysis presents itself, not only will diagnosis be incomplete, but we will likewise be deprived of a most important therapeutic indication to be derived from a knowledge of the cause of the malady.

If the history, ignoring any certain cause, still affords us the regular sequence of symptoms, as, for example, that the patient first suffered from colic and constipation, which, continuing to harass him for some time, was finally followed by paralysis of the extensor muscles of the hand and fore-arm, we might insist that the introduction of lead into the system was the source of trouble, notwithstanding any denial on the part of the patient ; and such an opinion would be strengthened by the appearance of a blue line about the gums ; and, further, you would be justified in instituting a treatment based upon this opinion. Yet, strange to say, cases have occurred just such as I have supposed, in which the medical attendant has been satisfied with, and consequently led astray by, the denial of the patient as to any possible manner in which lead could have found its way into the system. You will see the necessity, then, for the most careful and critical investigation, to discover the possible source, which may be beyond the knowledge, or even suspicion of the patient.

In a letter to the editor of the *London Lancet*, for the year

1860, Dr. Hassal shows some of the many sources from which lead may enter the system and produce its characteristic symptoms. Not only is it the painter, or the manufacturer of paints containing lead, who is liable, but also he who indulges frequently in certain *bon-bons*, he who drinks water long contained in leaden pipes or vessels, he who indulges in snuff put up in lead (so called tin) foil, or even the fine lady who improves her complexion with frequent applications of "Laird's Bloom of Youth" and, possibly, of some other cosmetics. Prof Sayre, of New York, related several cases of this kind in a paper read before the Am. Med. Association at its annual meeting in 1869, caused by the constant and long continued use of this cosmetic, and which had been misunderstood, singular to say, by men of high standing and ability, simply because their investigations had not gone far enough into the histories of these cases. You may, then, readily admit your liability to the same kind of error, and that you may confound cases of lead palsy with paralysis arising from disease of the spine, or, in the female, consider it merely one of the manifestations of that protean malady we call hysteria, the more especially, as in the female under the influence of lead there appears to be great hyperæsthesia of the genitals with marked vaginismus.

About a year ago, we had in the women's ward of our hospital, a case of paralysis of the hands and fore-arms which was unaccountable and irremediable, until the discovery of the cause in the long continued use of "Laird's Bloom of Youth."

If I have shown that even with the characteristic palsy and antecedent symptoms of colic and constipation, cases of lead poisoning may be misunderstood because of defective history, you will readily understand the greater necessity of rigid investigation of cases presenting irregularity in the sequence of phenomena, or else rare and unusual symptoms. In illustration, I remember to have seen several years since, in the attic ward of this hospital, a man past the middle of life then suffering from a phagedænic ulceration of the scrotum, which threatened seriously to deprive him of a covering for his testicles.

While standing at his bed-side, I observed that he used his hands with considerable awkwardness, which led to an inquiry looking to the possibility of saturnine poisoning. This was the conclusion, subsequently proved by the happy result of treat-

ment, which was mainly by large doses of potassium iodide. Only last year, I call to mind while speaking to you, a young man was brought into the hospital in a state of wild and violent delirium ; so much so, that for a time the restraint of a jacket was imperative.

His case had all the appearance of ordinary acute mania ; and, in the absence of all other possible causes, and upon the discovery that he had, up to the attack of his sickness and for some time previous, been working in a lead factory, we ventured a diagnosis of lead poisoning ; and here again the treatment, based upon the causal indication, seemed, by its successful result, to prove the correctness of our views.

In the primary stage, then, of saturnine poisoning, the prominent symptoms are colic more or less violent, with constipation more or less obstinate.

The disease is, hence, commonly called at this stage *Colica Pictonum*, from Pictones, the inhabitants of Poitou, who were particularly liable to this form of colic from the use of wine impregnated with acetate of lead introduced to clarify and sweeten it. In like manner it was said to be a common custom in the West Indies to add lead to the wine there manufactured, giving rise frequently to the dry "belly-ache" of that country.

I have myself seen more than one case of severe colic produced by drinking stale soda water, namely carbonic acid water, which had remained for days in the fountain.

The indications for treatment, then, are to relieve pain and constipation, and at the same time to eliminate the poison from the system, in order to prevent, if possible, the secondary effects which manifest themselves in paralysis.

To meet the first indication, namely, pain, large and repeated doses of opium or some of its preparations are demanded, and this remedial agent is often competent to fulfill the second indication at the same time ; since the pain, which is mainly due to spasm of the intestinal muscles, being relieved, and relaxation of the bowels brought about, the physiological peristaltic action of the gut, which had been interrupted or completely arrested, is resumed, and so the intestine emptied of its contents. No doubt, however, this desirable action of the intestine is facilitated by the combination of an opiate and cathartic, and, hence, it is better to pursue that plan. When there is reason to suspect impaction of

fecal matter, the Oleum Ricini is probably the best cathartic; otherwise, we may administer the sulphate of magnesia with the sulphate of morphia, to a solution of which may be added a certain proportion of elixir vitriol.

This combination has the advantage of fulfilling all three indications at once, namely, relief of pain, removal of constipation and elimination of the lead; since it is supposed that the sulphuric acid combines with the lead in the system which combination is formed and so eliminated from the body.

The constipation in certain cases, however, resists the above remedies, and we must resort to more energetic means, as, for example, the Oleum Tiglii, two or three drops of which may be combined in a mixture with about an ounce of castor oil and twenty or twenty-five drops of Laudanum. Even this dose is sometimes ineffective and we must resort to large and repeated enemata.

In one case, in our wards, which resisted all other means to empty the bowels, we succeeded by inflating the bowels with air by means of an ordinary hand-bellows; so that, when all other methods fail, you may have recourse to this as a *dernier resort*.

In the treatment of the paralysis which so often follows, the long continued use of the iodide of potassium is demanded for the complete elimination of the poison; while the weakened muscles themselves must be stimulated by daily applications of the galvanic or faradic current. Either the constant or interrupted (faradic) current, I believe, is efficient. But if electrical treatment is neglected, in cases when the paralysis is at all marked, atrophy of the muscles will inevitably take place, with degeneration of the muscular fibre, rendering restoration, after a time, almost impossible.

In certain cases, where the system is profoundly poisoned by long subjection to the action of the metal, the paralysis is not confined to its ordinary locality, namely the hands and fore-arms, but may effect, likewise, the lower extremities, rendering the patient completely helpless. We had a case of the kind several years ago, in one of our wards, and in which the paralysis in both upper and lower limbs was accompanied by much pain and swelling, both inflammatory and cedematous, especially in the neighborhood of the joints, so that the case had much the aspect of inflammatory rheumatism. But we established the fact

that there was actual paralysis and not simply immobility due to pain. This patient continued for two years under electrical treatment for the paralysis, which (though much improved when I last saw him, about a year ago, so that he could get about very well and use his hands tolerably), was by no means entirely removed.

Proceedings.

SAINT LOUIS MEDICAL SOCIETY.

At the annual meeting of the St. Louis Medical Society, January 8th, 1876, the following officers were elected for the ensuing year: President, T. F. Prewitt, M. D.; Vice President, H. N. Spencer, M. D.; Corresponding Secretary, C. H. Hughes, M. D.; Recording Secretary, Wm. Porter, M. D.; Treasurer, R. J. Hill, M. D.

St. Louis, Jan. 15, 1876.

The Society was called to order by the President.

After reading the minutes of the last meeting the retiring President, Dr. Kennard, took occasion to thank the members of the Society for the courtesy and respect shown him during his term of office, and expressed his pleasure at the kindly spirit which had prevailed at each meeting during the past year.

The President elect was then presented with the emblem of office, and in a few happy remarks declared his appreciation of the honor conferred upon him.

The Standing Committees for 1876 were appointed, as follows: Committee on Ethics—Drs. J. M. Scott, Wm. M. McPheeters, A. J. Steele; Committee on Elections—Drs. Jno. T. Hodgen, Jno. Bryson, T. W. Wesseler; Committee on Publication—

Drs. E. Montgomery, G. Hurt, A. Kneckelhan ; Executive Committee—Drs. S. T. Newman, Thos. Scott, Adolphus Green. Library Committee—Drs. Chas. E. Briggs, D. V. Dean, Wm. Dickinson.

A case of ovariectomy, reported by Dr. Prewitt at a former meeting, was recalled, and the patient presented herself for examination. The incision had quite healed, and the pedicle projecting through the cicatrix had granulated over. At each menstrual period since the operation (3) there had been a slight discharge of blood from the pedicle, which occurred and ceased with the menstrual flow.

Dr. Hurt asked how this abnormal hæmorrhage could be accounted for.

Dr. Prewitt—The Fallopian tube was enclosed in the clamp, the fimbriated extremity being cut off with the cyst. It was possible that the congestion of the uterus involved the tube, and so made its appearance at the outer exposed extremity. It could hardly be that the canal was so open as to allow the escape of the menstrual discharge from the uterus. He had not been able to pass a probe along the tube, though a small depression could be seen in the end of the pedicle.

Dr. Kennard thought the phenomenon could be accounted for on the theory of vicarious menstruation.

Dr. Laidley reported a case in the practice of Dr. Armstrong, of this city. On December 2nd a boy five years old fell under a car-wheel, and had his foot badly crushed. On the tenth day the second metatarsal bone was removed and a quantity of pus discharged. Four days afterwards there were distinct symptoms of tetanus. Chloral hydrate was given in five grain, afterwards ten-grain doses. The symptoms became less intense, and the child recovered.

Dr. McPheeters—This case is an additional evidence that chloral is the best remedy yet known for tetanus.

Dr. Hughes—If the theory that chloral is converted into chloroform in the blood be true, then chloral is certainly indicated in tetanus. He remembered a case of tetanic convulsions for six weeks in which chloroform was used freely, and the patient recovered.

Dr. Montgomery related several cases in which he had given bromide of potassium in infantile convulsions with good effect.

Reviews and Bibliographical Notices.

ZIEMSEN'S CYCLOPEDIA OF THE PRACTICE OF MEDICINE. Vol. V.
On Diseases of the Respiratory Organs.

We find another of this series of volumes on our table for announcement, the first part being written by Prof. Juergensen, of Tübingen, on Croupous Pneumonia, (translated by A. Braton Ball, M. D.). Catarrhal Pneumonia, (translated by Edward Krankel, M. D.). Hypostatic Processes in the Lungs, Pneumonia from Embolism; (translated by Edward W. Schauffler, M. D., of Kansas City).

The Second Part is by Prof. Hertz, of Amsterdam. Themes discussed: Anæmia, Hyperæmia and Œdema, Hæmorrhages of the Lungs, Atelectasis, Atrophy, Hypertrophy, Pulmonary Emphysema, Gangrene of the Lungs, New-Growths in the Lungs, New-Growths in the Mediastinum, Parasites of the Lungs.

The Third Part, Acute Milliary Tuberculosis, is by Prof. Rindfleisch, of Wurtzburg, on chronic and acute Tuberculosis and Phthisis.

We are glad to see that the portions of the work having the greatest practical value are being selected for early issue. The profession can better afford to wait a year or two for the historical and more theoretical parts of the work. We give a paragraph or two to indicate some of the views held by the celebrated author on *Croupous Pneumonia*. He says, page 144, "Croupous Pneumonia is a constitutional disease, and is not dependent upon a local cause. The pulmonary inflammation is merely the chief symptom, and the morbid pneumonia are not due to the local affection. The hypothesis of a morbid cause is indispensable. Croupous pneumonia belongs to the group of infectious diseases.

On the subject of Etiology of Tubercle, the author says, page 616: "We know of but one cause for the formation of the milliary tubercle, viz., the absorption of caseous matter. How this produces tubercle requires still further investigation. * * Milliary tuberculosis is found to occur first of all in the lungs, in connection with pre-existing lesions of the apices. It also arises from caseous lymphatic or bronchial glands."

On the subject of *treatment* our author concludes, page 630, A *Therapeusis*, in the true meaning of the word, does not exist, unless we credit the idea that the iodide of potassium can check the development of the tubercles, or that some other remedy can effect the absorption or obsolescence of those which are developed. He thinks cardiac stimulants useful in prolonging life.

On the relation of scrofula to tubercle we have the following, on page 639: "The cheesy infiltrations and suppurations of mucous membranes elaborate a poison which, when absorbed, produces tubercles. This constitutes the real relationship between scrofula and tuberculosis. The tubercular poison in most cases is thus manufactured by the patient himself, and it has not been demonstrated that this poison can be transmitted to perfectly healthy persons, so that the disease can hardly be considered purely infectious. The reader is materially aided by numerous illustrations of clever workmanship.

Considering the great prevalence and mortality of the affections treated in this volume, it can hardly be surpassed in interest by any of the series.

What has been said of the mechanical execution of former volumes is equally true of this. E.

A SYSTEM OF MIDWIFERY. By Wm. Leishman, M. D., with additions, by John S. Parry, M. D., *Second Edition*.

When Professor Leishman presented his first edition to the profession he entered a wedge into the literature of midwifery, which has borne driving until it has secured for itself a prominent place among the authors of the period.

In the preface to the second edition it is said that many errors have been corrected, and that no effort has been spared to render the work more worthy of the approbation which has been accorded to it. The chief alterations will be found in the Physiological section—also the chapters on Puerperal Fever, which have been re-written, with a view of giving greater prominence to the doctrine of septicaemic infection.

This work has become so widely and favorably known to the profession in this country that more is not necessary than to announce the completion of the revised edition, the first edition being exhausted, both in this country and in Great Britain.

The additional illustrations introduced into this edition will be appreciated by the student as a material aid to the text.

E.

A TREATISE ON THE DISEASES OF INFANCY AND CHILDHOOD. By J. Lewis Smith, M. D. *Third Edition*, enlarged and thoroughly revised. With Illustrations. 8vo., pp. 724. Philadelphia: Henry C. Lea.

The plan of this Treatise is to divide the subjects into *Parts*, *Sections* and *Chapters*.

Chapters under *Part I.* treat of the case of the mother in pregnancy, infancy and childhood, mortality of early life, lactation, wet nurse, weaning, artificial feeding, baths, clothing, accidents incident to detachment of cord, diseases of the umbilicus, umbilical hæmorrhage, concluding with a chapter on the "Diagnosis of Infantile Diseases."

Part II. is devoted to the consideration of constitutional diseases. Section I.—Diathetic Diseases; Section II.—Eruptive Fevers; Section III.—Non-Eruptive Contagious Diseases.

Part III. Section I.—Diseases of the Cerebro-Spinal System; Section II.—Diseases of the Respiratory System; Section III.—Diseases of the Digestive Apparatus; Section IV.—Diseases of the Circulatory System; Concluding with Section V., on the most common Skin Diseases.

Under the foregoing general divisions the subjects are subdivided into chapters which include all the themes commonly discussed in text-books on this subject, the reader being carried along from one theme to another in their natural order.

One of the additions to this edition is the disease known as rotheln, of rare occurrence in this country, by the Germans termed rubeola—German Measles. Our author describes an epidemic of this disease as it prevailed in New York during the latter part of 1873 and reached its maximum in March and April of 1874.

The chapter on Diphtheria has been re-written and incorporates the latest researches and improved methods of treatment. Also there has been added a chapter on cerebro-spinal fever at length.

The work may be considered orthodox if not conservative in treatment, hence a safe text-book for students and practitioners.

In the chapter on *Cholera Infantum* our author ventures the opinion that if we called the same thing by the same name on the *east* and *west* sides of the Atlantic, "as much Cholera Infantum would be found on the east as on the west side"—page 638. In this opinion we are compelled to believe our author in serious error. We believe it has been already demonstrated to be otherwise. Admitting that it prevails "mostly in cities, and from May to October," what factors are present in our cities during the summer months to influence the production of this disease not present during the remainder of the year? We answer *heat and moisture*.

By referring to the September number of this journal, year 1871, will be found a table showing the comparative heat and moisture of the chief cities in the United States, and in London, Paris and Berlin, in which it transpires that the mean heat of the summer months in St. Louis, Chicago, New York, Boston, and Philadelphia ranges from 75° to 78° F.; that during the same months in the European cities it ranges from 61° to 64.5° F.; that the water-fall in the European cities, same months, was from 1.97 to 2 inches per month; in the cities of the United States from 3.98 to 4.68 in a month.

Hence double the moisture and ten or twelve degrees more heat must be held accountable for the Cholera Infantum. As we do not have it in this country with a temperature of 50° F., in the spring and fall, why attribute it to bad ventilation, teething, and a dozen other causes, which we have the balance of the year without the disease in question. All the facts in observation harmonize under the theory of heat and moisture, while they do not under any other theory. Neither is it immaterial as to the prophylaxis of the disease or its rational treatment.

That calomel, in any doses, should be of the slightest service, no reasoning from the facts can render in the slightest degree probable.

With regard to the treatment our author recommends, we have less fault to find. Particularly do we commend his discarding the calomel treatment, so long in the ascendant. Many old doctors let go of darling theories very much as they let go of their practice—not until they are about to die. E.

THE MUCOUS MEMBRANE OF THE UTERUS, with especial reference to the development and structure of the deciduæ. By Geo. J. Engelmann, A. M., M. D., Master in Obstetrics in the University of Vienna ; Fellow of the London Obstetrical Society ; Member of the London Pathological Society ; Physician-in-Chief to the St. Louis Lying-in Charity ; Director of the St. Louis School of Midwives, etc. With fourteen illustrations. 8vo., pp. iv, 65. New York : William Wood & Co., 1875.

This most excellent paper, neatly bound, has been in our hands several months (having been published in the N. Y. journal of obstetrics, May, 1875), and from its high merits should have received an earlier notice, had not unavoidable circumstances necessitated delay.

It is difficult in a brief review to give a satisfactory analysis of a paper like this ; it should be thoroughly read and closely studied in order to appreciate the patient labor and acumen which the author has brought to bear upon a most interesting and hitherto obscure chapter in the literature of physiology and obstetrics.

One feature in this monograph should commend it to the respectful consideration of all its readers, and that is that it is the result of *original research* in the extensive museums and well supplied clinics of Berlin and Vienna, where for a number of years Dr. Engelmann prosecuted his investigations under the eye, and with the aid of the first medical luminaries of Europe,—such as Rokitansky, Späth, Reichert, and others.

The matters embraced in this paper are of great interest to the physiologist and pathologist as well as to the practitioner. It covers the physiological and pathological history “of the uterine mucosa in its various changes from its first appearance in the fœtus, throughout its period of development in the child, and its long season of maturity and functional activity, to the time of involutions and inactivity.”

Dr. Engelmann condenses the results of the examination of a larger number of early ova than has been reported, within our knowledge, by any other authority. Some idea of the facilities enjoyed by the author may be formed when we are informed that twenty-nine of the specimens examined were “products of less than a month’s gestation ;” in addition to which there were very many more after maturity. The Doctor’s investigations also included several hundred uteri, from that of the fœtus to senility.

The frequent use of the personal pronoun in this paper loses the semblance of egotism when it is reflected that the writer thus presents strong claims to speak with authority.

The relations of the mucous lining of the womb, both to the ovum and to its subjacent structures, are fully discussed, and illustrated with great clearness; and it is to be hoped that everyone who can do so, will read and study them closely, bearing, as they do, upon many practical questions in physiology and pathology. We cannot bring these brief and hurried comments to a close without expressing a hope that Dr. Engelmann will continue his labor in the same field, and that we may soon hear from him in regard to the relations between menstruation and ovulation.

W. C.

OUTLINES OF PRACTICAL HISTOLOGY, Being the Notes of the Histological Section of the Class of Practical Physiology, held in the University of Edinburgh. By William Rutherford, M. D., F. R. S. E., Professor of the Institutes of Medicine in the University of Edinburgh, Examiner in Physiology in the University of London. London: J. & A. Churchill. Philadelphia: Lindsay and Blakiston, 1875. 12 mo., pp. 72, interleaved.

These Notes do not profess to be more than an outline of Practical Histology; and they are presented as especially concerning the course which is introductory to an advanced study of the subject, Pathological Histology being almost entirely omitted. Small and cheap as is this book, it still contains enough to show the ludicrousness of affecting or advertising any dignity of attainment and qualifications by the mere possession of a microscope and accessories, and to give those who have occasion to employ experts in microscopy, some slight estimate of the labor-value of the work that may be so valuable to them in its results. The work is the best of its kind in English; and the learner who shall have *worked* thoroughly through according to its directions with or without (better with) a teacher, will have a very good introduction to his future work.

D. V. D.

ON THE RELATION BETWEEN DIABETES AND FOOD, and its application to the treatment of the Disease. By Arthur Scott Donkin, M. D., Edin., M. D., Durham, Member of the Clinical Society of London, etc., etc. Cloth; 8vo., pp. viii, 186. New York: G. P. Putnam's Sons. 1875.

The author of this treatise substantially denies the efficacy of any treatment of Idiopathic Diabetes (as distinguished from temporary or artificial glycosuria), except the "skim-milk treatment" as originated and practiced by him. He also denies any validity to the current theories, except the one advocated by him, of the pathology of the disease. He believes it is essentially a wasting disease, and, so far as yet ascertained, not dependent on any structural lesion or organic change of any particular organ of the body; that it is not produced by any structural change in the nervous system, located either in its cerebro-spinal or sympathetic division, or in both; instead of its being a *neurorsis*, the cerebro-spinal symptoms, which develop usually at an advanced period of the disease, are due to alterations that are simply ravages of the disease; diabetes is not due to impeded combustion of sugar, because in this disease there is an excessive formation of sugar into which nearly all the food taken is sometimes converted.

He holds that the Liver is the probable seat of the disease and the source of the sugar, the disease being one of morbid nutrition and morbid secretion of this organ; the food required for the nutrition of the body being misappropriated, and converted in a direct manner into a form of sugar, which, so far as the wants of the system are concerned, is a useless, unoxidisable, crystalloid, osmotic substance—named by Cantani *paragluco*se—which has a strong affinity for water from whatever source, and, after entering the blood, is cast out of it in the urine by the kidneys.

Dr. Donkin recognizes two stages of the disease:

The first and most protracted stage is that during which the *amylaceous* alimentary compounds only, starch and the various sugars, are misappropriated. The second stage is that during which the *albuminous* or nitrogenous substances, albumen, casein, gluten, etc., are also misappropriated. Though he once believed the saccharine metamorphosis of fats and oils originates anterior to the second phase in which the albuminous principles undergo saccharine transformation, he now thinks the exact period must be determined by future investigations. The mal-assimilation of the amylaceous compounds of food, he thinks, originates, or determines and intestifies the saccharine metamorphosis of the oleaginous and the albuminous material; the former substances appearing to be the fuel by which the disease is fed until

it acquires an intensity enabling it to attack and misappropriate the latter substances even when stored in the tissues.

The author gives credit, not to experimental physiology but to clinical inquiries, for almost all we know of the mechanism of diabetes, and the sequence of events observed during its progress, and believes the efficacy of any form of treatment must be estimated by its conjoint influence on the urine and the general health. In his preface even, he states that the dietetic treatment of the disease is the only resource of medicine against it. His experience is, that a purely skim-milk regimen rigidly adhered to, will completely arrest the disease *in a very large proportion of cases* in a brief period, and will subdue the most hopeless cases to an extent not attained by any other treatment.

But the addition of the least cream, fat, or solid nitrogenous animal food, invariably produces a decided, and often a very considerable rise in the quantity of urine sugar, and a corresponding aggravation of the symptoms. The ingestion of glycerine, which, we may say, has been proposed on theoretical grounds as a remedy, exerts a similar unfavorable influence, as shown by Dr. Pavy. *Lactose* and *casein*, as they co-exist in skim-milk, are the two proximate principles—the one *carbonaceous* and *saccharine*, the other *nitrogenous* or *albuminous*—that stand in a different relation to diabetes than any other food. *Lactose* is the only sugar that cannot be misappropriated. It is converted into lactic acid during digestion, which is one of its most important physiological uses in milk. But it is to *fresh casein*, which resists the sugar-forming power of diabetes, that the potency of the skim-milk regimen in correcting and mitigating the disease is due.

If, in the first stage, when the whole of the sugar is formed at the expense of the amylaceous alimentary principles, their loss to the system is compensated by the assimilation and oxidation of the fat consumed, it seems to us, that, as a substitute for the previous food, whole-milk should be preferable to skim-milk. Granting, from Dr. Donkin's extensive experience with the *skim-milk treatment*, all he claims for its own curative power, we cannot agree with him as to its exclusive power over diabetes. He states that the pharmacopœias, old and young, have been ransacked without yielding a single drug or combination of such, capable of exercising any marked control over it. He

states that an exclusive regimen of solid animal food, as prescribed by Bouchardat, is powerless to arrest the disease, and that, on the contrary, it increases the sugar. Yet, when Cantani reports his repeated success with lactic acid, Dr. Donkin does not concede that it exercises any influence in diminishing the amount of urine sugar, but says, the curative influence attributed to it is entirely due to the strict diabetic regimen prescribed during its administration—the success is certainly attributable to the rigorous nitrogenous animal diet. With singular logic, he claims that though Cantani introduced the lactic-acid treatment on the false theoretical ground of defective combustion, instead of increased production, of sugar, still, if lactic acid possesses any curative action over diabetes, the merit of having discovered it would belong to him (Dr. D.), in having anticipated Cantani by the introduction of the skim-milk treatment, by which is administered abundance of lactose that becomes changed to lactic acid.

Our own experience with several diabetics is contradictory, in many respects, to the exclusive claims of the skim-milk treatment. In one case under our observation, the patient, a well-to-do business man, had suffered for three years with this disease, under treatment, resorts to watering places, etc. He had all, and intensely, the marked symptoms of the advanced stage. He passed regularly in twenty-four hours over twenty pints of urine of Sp. gr. 1.036, containing, by the Soleil-Venske Saccharimeter, and by titration 5.56 per cent. sugar. February 9, 1875, he commenced, by our advice, under his physician with lactic acid administered in glycerine (to mask its sharpness) and water. He was put on a regimen somewhat after Pavy's dietary; was *not* allowed milk; took *sweet cream by the quart*, sour wines and well-fermented beer; avoided sugar, even in his coffee, and amylaceous foods, except the merest bit of bread; he was to avoid liver, but to take fat- and lean-meat of mammalia, birds and fish, to his liking, with lettuce, water-cress, greens, string-beans, &c. To May 31st twenty quantitative examinations were made; and at that date the Sp. gr. was 1.024, sugar below .012 per cent. Patient was so well that, though very wealthy, he did not consider further examinations worth the expense, or even worth the labor of saving and bringing the urine, which averaged three pints the twenty-four

hours. To-day (Feb. 3, 1876, nearly a year from commencement of treatment), we met him ; says he is as well as ever he was, in excellent health, eats without any regard to his old disease, limits himself, as to cream, only by what his stomach will bear. With the exception of taking the acid two or three days, three months, ago, has not taken it for many months.

Another patient's urine was brought, in seventeen days, from twelve pints the twenty-four hours, of Sp. gr. 1.032, sugar, 5.33 per cent., to three pints, with Sp. gr., 1.022, and not a trace of sugar. The patient's bad symptoms were all gone. He gained fourteen pounds in weight the first twenty-eight days. At this writing his urine is normal, and he has not a symptom of the disease. His restrictions, as to diet, were about as in the previous case, and no attention is now paid to this matter. These, and other cases under our observation, are well known to their physicians. They are not cited to show that the regimen was the best that could be provided, but to show that, according to Dr. Donkin's own theory, the cure in these cases was not due to the regimen alone, but was effected in spite of it, and that lactic acid, by the showings of the advocates of the two methods of treatment, is a more practicable and efficacious remedy than skim-milk. For again, he says, "skim-milk is valueless, as a remedy in diabetes, when administered in combination with solid animal or other nitrogenous food."

The term Diabetes, or Idiopathic Diabetes, seems to be used by the author *par excellence* for *Diabetes mellitus* ; as the work is confined entirely to this form of diabetes, and yet neither this specific name nor that of *Diabetes insipidus* is once mentioned.

There is much of interest in this little work ; and the importance of the subject must be our excuse for so extended a notice.

D. V. D.

ZELL'S ENCYCLOPEDIA "now being re-issued, thoroughly revised with 200 pages of new matter added, and with numerous colored maps," of all parts of the world, describing the Cities, Towns, and Villages ; defining the words of the English language, and giving the pronunciation of both common and proper names, 150,000 subjects treated, thus affording information on almost every conceivable topic. As now issued from the press it is to be completed in 64 numbers, 40 pages, each. E.

Books and Pamphlets Received.

THE ADDRESS IN OBSTETRICS, DISEASES OF WOMEN AND CHILDREN. By Wm. H. Byford, M. D. To the American Medical Association, 1875.

ON PIGMENTARY DEPOSITS IN THE BRAIN, RESULTING FROM MALARIAL POISONING. By Wm. A. Hammond, M. D.

ON THE CAUSE OF VICE-PRESIDENT WILSON'S DEATH. By Wm. A. Hammond, M. D.

SEMI-ANNUAL MEETING OF THE SOUTHERN ILLINOIS MEDICAL ASSOCIATION. Cairo.

METRIC SYSTEM OF WEIGHTS AND MEASURES.

DR. H. LENOX HODGE'S NOTE-BOOK FOR CASES OF OVARIAN TUMORS AND OTHER ABDOMINAL ENLARGEMENTS. Philadelphia: Lindsay & Blakiston.

OPIUM EATING. An Autobiographical Sketch by an Habitué. Philadelphia: Claxton, Remsen & Haffelfinger, 628 Market street.

(For Sale by Short & Roland, No. 504 North Main street, St. Louis.)

OUTLINES OF PRACTICAL HISTOLOGY. By Wm. Rutherford, M. D., F. R. S. E.

(For sale by the St. Louis Book & News Co.)

EXTRA-UTERINE PREGNANCY. By John S. Parry, M. D.

(For Sale by the St. Louis Book & News Co.)

A TREATISE ON THE DISEASES OF INFANCY AND CHILDHOOD. By J. Lewis Smith, M. D.

[For Sale by the St. Louis Book & News Co.]

A SYSTEM OF MIDWIFERY, Including the Diseases of Pregnancy and the Puerperal State. By Wm. Leishman, M. D. With Appendix, by John S. Parry, M. D. Second Edition.

[For Sale by the St. Louis Book & News Co.]

ZELL'S POPULAR ENCYCLOPEDIA and Universal Dictionary. Edited by L. Colange, L.L. D. New and Revised Edition. Philadelphia: Baker, Davis & Co.

(J. W. Marsh, General Agent for St. Louis, Mo.; office 619 N. 5th St.)

Journalistic.

We have the first number of the new series of *The Journal of Nervous and Mental Diseases*, (formerly *Chicago Journal of Nervous and Mental Diseases*), now published simultaneously in Chicago and New York. Quarterly. \$5 a year: single numbers, \$1.50. We congratulate the managers of this excellent journal, so far. It was needful, and worthy to occupy a position to command the attention of the profession of the entire country as a journal of its high character, devoted to the specialties of nervous and mental diseases, could not expect sufficient support unless it had the entire profession of the country to gather appreciative supporters from; and, as position has much to do with the success of such an enterprise, we are glad to see that point secured, adding a distinguished associate in New York, Philadelphia and at the "Hubb." We expect to see it shedding its light upon the many dark and difficult questions on the pathology and treatment of the "*mind diseased*."

E.

The Journal of Microscopy and Popular Science, published monthly at 50 cents a year, by the Handicraft Publication Co., 37 Park Row, New York, begins with January of this year. This is the only journal of microscopy published at present in this country. It purports to be "an efficient means of diffusing among the people at large a taste for natural science." Such a journal, well edited and pushed, ought to be well patronized, especially by the more intelligent young people of the country, who have ample time and material for amateur study, out of which, with a little incitement and direction, so often grows a desire for more systematic study.

D. V. D.

We find on our table the first number of the *Louisville Medical News*, a weekly journal of medicine and surgery. Edited by Richard O. Conklin, A. M., M. D., and Wm. H. Galt, M. D. Twelve double-column closely printed pages, at the low price of \$2.10 a year, postage free. The first number is inviting in appearance and racy in substance. Setting its coulter deep at the outset, it uncovers shams and abuses nearest home first. We welcome it to our exchange list.

E.

The American Practitioner will hereafter be issued simultaneously at Louisville and Indianapolis. Its editorial management unchanged.

The Indiana Medical Journal, heretofore published at Indianapolis, has been consolidated with the Cincinnati *Lancet and Observer*.

The Peninsular Journal of Medicine comes to us in a new dress of iron-gray, with increased capacity. Prof. Prescott takes charge of the department of Chemistry and Pharmacy. Henceforth, Druggists are expected to have an increased interest in this journal.

The Kansas City Medical Journal has been discontinued.

The Leavenworth Medical Herald has been discontinued.

The Medical Examiner is the title of a new journal, the first number of which was issued Thursday, January 6, in the city of London, Eng.—another evidence that the enterprise of the New World is being reflected back upon the Old.

E.

Extracts from Current Medical Literature.

We find in *The Journal of Nervous and Mental Diseases*, January number, a report of the proceedings of the New York Neurological Society, in which the President, Dr. Hammond, remarked, relative to the practical use of Dr. Lombard's Thermo-Electric Differential Calorimeter that in reference to sex: Thirty examinations found that women were very considerably warmer than men, which had not been proven before. Their temperature was always about three-fourths of a degree higher than that of a man.

That Children are decidedly warmer than adults. The younger the child the greater the difference—that is the higher the temperature.

That Position makes a great difference.

Also, that there is often a considerable difference in the two sides of the body. The left side of the head is always the warmer of the two. Two exceptions only has he found in 300 examinations—difference of about two-thirds of a degree.

Another observation was, that if the ether spray was used to cool the skin over the spine, there is a very notable fall in the temperature of both hands and both arms. The indigestion of stimulants is followed by the increase of temperature about the head.

In facial paralysis, in Grave's disease, in tinnitus aurium, in hemidiaphoresis, in hemianæsthesia, in hysteria, in neuralgic migraine, in cerebral hæmorrhage, in all these diseases there has been found a variation of temperature.

The peculiarity of this instrument is that it is of so delicate construction as to register differences not appreciable by the ordinary thermometer.

Bromide of Camphor.

We find in the same journal a summary of a recent thesis on this article and its therapeutic use by M. Pathault, taken from the *Gaz. des Hôpitaux*, No. III., in which many cases are enu-

merated of chorea, hysteria, palpitations, disturbed sleep, erratic neuralgias, convulsive tremors, delirium tremens, etc., in which ordinary anti-spasmodics and narcotics had failed, and recourse was had to this drug, with better results. Also, in hystero-epilepsy and epilepsy of long standing, benefit was received by the use of from 15 to 24 grains. daily.

Dr William A. Hamond, in his inaugural address as President of the New York Neurological Society, takes for his theme, "*The Brain Not the Sole Organ of the Mind.*" He concludes his interesting address as follows :

"I by no means contend that the spinal cord—to say nothing of the sympathetic system—is in the normal condition of the animal body, as important a center of mental influence as in the brain. The latter organ predominates. The very highest attributes of the mind come from it, and the cord is subordinate when the brain is capable of acting. But it seems to me illogical to deny mental power to the spinal cord, after a consideration of such experiments; and other facts as I have brought forward, and hence we are, I think, justified in concluding :

"1st. That of the mental faculties, perception and volition are seated in the spinal cord, as well as in the cerebral ganglia.

"2d. That the cord is not probably capable of originating mental influence independently of sensorial impressions—a condition of the brain, also, till it has accumulated facts through the operation of the senses.

"3d. That, as memory is not an attribute of the mental influence evolved by the spinal cord, it requires, unlike the brain, a new impression, in order that mental force may be produced.

The Prevention of Hydrophobia.

Dr. Joseph Valentic considers this subject in a recent number of the *Allgemeine Militärärztliche Zeitung*. He bases his views and recommendations on the statement of Dr. Jonathan Braun (*Cyclopædia der gesammten Thierheilkunde*) that "the primary causes of this disease are found to occur in dogs whose sexual passions have been aroused but not gratified, for they occur most frequently in spring, the principal coupling-time of this animal; the affection is met with almost exclusively among the males; it has never been observed in castrated dogs, and but rarely in sluts."

From these statements, which he accepts, the writer recommends the establishment of places for breeding, and others for castrating dogs. By letting none but castrated males run free on the streets he is sure the disease can be radically exterminated.

Malarial Pigmentary Deposits in the Brain.

These experiments seem to show very conclusively that there is nothing impossible in the views brought forward. And from a consideration of the whole subject, I think we are warranted in concluding :

1st. That as a consequence of malarial poisoning, the pigment of the blood undergoes a change in appearance and form, and that the alteration is effected in the spleen, leading to hypertrophy of this organ.

2d. That this pigment may enter the general circulation from the spleen, either in a free condition or in pigment-holding cells, and that it may be deposited in the cerebral blood-vessels, or pass through their coats.

3d. That these deposits may give rise to various symptoms, indicating derangement of the nervous system.

4th. That arsenic appears to have the power of, in a way at present unknown, so altering the character of the pigmentary deposits as to facilitate their removal, and to cause the disappearance of the symptoms to which they give rise.

5th. That we may have, during the life of the individual, ocular demonstration of these facts by the presence of pigment in the fundus of the eye, as revealed by the ophthalmoscope.—*Hammond, Trans. Amer. Neurolog. Association, 1875.*

The Treatment of Rheumatism.

The following views on the subject are given at the close of a careful article in the *Southern Medical Record*, August, 1875, by Dr. C. J. Tidd, of Ohio:—

1. I would at once (after deciding that I had a case of acute inflammatory rheumatism to deal with) have the bed insulated for reasons which all will readily understand.

2. I would secure perfect quietude, by means of the best appliances which I could command.

3. I would apply cups or blisters along the spine, to remove congestion, and induce normal action, as well also to render that usual sequence, pericarditis, less apt to follow.

4. I would apply cloths, wrung out of hot water, to the spine, also to the affected joints, not only to relax the arterial tension, but to reduce nerve energy: and when I speak of a reduction of nerve energy, I do not refer to diverting it into another channel, but to a simple decline of its *intensity*, and for this end heat is well calculated, as we all well know.

5. I would administer such internal remedies as the case seems to demand. Phosphorus, in some form, if there seemed to be excessive nerve waste; camphor, aconite, veratrum viride, colchicum, iodide of potassa, etc., if indicated, to assist in the reduction of nerve energy; nitrate of potassa, indicated to relax the blood vessels, increase perspiration, or lessen the pulse either of which it will do. And here let me add, at the risk of being considered eccentric, I do not think that nitrate of potassa should be regarded merely as a alkali, for we possess *no better promoter of the catamenia* than this agent, simply through its power of relaxing blood vessels, and its action on the cord.

6. I would promote vaso-motor action, by means of quinia, digitalis or ergot (in small doses), for reasons which will be so apparent that I need not explain here.

7. I would secure ease and sleep by means of hydrate of chloral, in preference to opium for two reasons:

1. It does not derange the digestive apparatus, nor retard elimination.

2. There is no danger of forming the opium habit, which is much to be dreaded. Do not understand me as advocating all the above plans in any given case, unless positively demanded, but I would choose from them such as seemed to be indicated. As a prophylactic in those patients who have been subject to this disease, I would administer full doses of quinine or opium, when they are about to be subjected to undue exposure, and for these reasons: In active exercise nerve energy is being more particularly directed in certain channels—not that of inflammatory action, but rather of muscular contraction and secretion. Stimuli, therefore besides having probably less influence upon the trophic system, are directed (carried with the stream as it were), and are exhausted and rendered harmless. In the

administration of quinia we have the vaso motor nerve, thus pre-occupied, and also a positive reduction, of trophic energy. In the use of opium, besides diminishing metamorphosis, the secretory system is stimulated to activity, and the influence of cold being in this way contracted and warded off, is much less liable to produce a recurrence of the malady.—*The Compendium*.

Treatment of Perforations of the Membrana Tympani.

Dr. C. J. Blake describes a method of treatment in certain cases of perforation of the membrana tympani, consisting in the application of pieces of sized paper large enough to cover the opening, and sufficiently moistened to insure their adherence to the membrane. The treatment is applicable only to those cases where there is no discharge into the tympanic cavity, or where it is so slight as to escape readily through the Eustachian tube without discharging through the perforation in the membrana tympani. The application of the paper covering possesses this advantage over the usual treatment by incision of the edges of the perforation or the touching with caustics, that it keeps up a slight irritation of the parts, favoring a cicatricial growth from the edges of the perforation, and at the same time affords a protection to the new tissue. The hearing, also, is usually improved, immediately, and in favorable cases the paper remains in position until the opening has completely closed, when it is removed by the natural process of reproduction of the dermoid coat of the membrana tympani, without the necessity for mechanical interference. Should the paper come away before the closure of the perforation is completed it is easily reapplied, and cases in which this has occurred show a change in the shape and diminution in size of the perforation with each successive application, evidencing continued growth of cicatricial tissue. Ordinary writing-paper, of varying thickness, may be employed, according to the size and position of the perforation. The paper, cut a little larger than the opening in the membrana tympani, should be moistened, and may then be applied, by means of a pair of fine forceps or a cotton-tipped probe, dipped in water. The sizing of the paper, well moistened, is sufficient to secure the proper adherence of the paper, the patient being warned not to inflate the middle ear for at least forty-eight hours after its application.—*Boston Med. and Surg. Journal*.

Raw Onions as a Diuretic.

Dr. G. W. Balfour, at a late meeting of the Medico-Chirurgical Society of Edinburgh (*Edinburgh Medical Journal*, Sept., 1875), gave an account of three patients who had been much benefited by the use of large quantities of raw onions, which had acted as a diuretic. The first case was that of a woman who had suffered from large white kidney and constriction of the mitral valve. Her abdomen and legs had been tapped several times, but, after using the remedy given above, she had been free from dropsy for two years, although still suffering from albuminuria. In the other two, one suffered from cardiac disease, cirrhotic liver, and ascites; the other had ascites, depending on tumor of the liver. In both of these the remedy had been given with good results. Both had been previously tapped, purgatives and diuretics alike having failed to give relief; and it was only upon finding that the fluid was steadily reaccumulating, in spite of treatment, that recourse was had to the onions. Under their use the amount passed steadily rose from ten or fifteen ounces to seventy, eighty, and a hundred ounces in a few days.—*Abst. Med. Science.*

Miscellany.

The St. Louis Sanitarium. We invite attention to this Institution for the reformation of those addicted to the excessive use of alcoholic liquors, opium, or other narcotics; and for the treatment of the diseases consequent thereon. An institution greatly needed in every state, and which should receive aid from the state, as these poor unfortunates are both *blind* and *insane* to a certain extent.

Hence the parties in charge of these Institutions should have authority from the Legislation to prescribe the liberty or confinement the patient may require to best effect his restoration.

The Lying-in Home, or "*maternity hospital*" is another Institution of equal if not greater necessity. Every city should provide a pleasant, private, reliable Lying-in Home, where kind treatment by trained nurses and skillful physicians, may be secured. Such we believe to be the maternity hospital now being established at No. 2834 Franklin Ave., under the auspices of a board of directors among whom are included some of the most eminent physicians in the city. A number of these small private institutions located in different parts of the city we believe to be preferable to a large maternity Hospital.

The profession and the community, the cause of Christianity and humanity, alike have a deep interest in this institution, as it directly tends to lessen the crimes of Abortion, Infanticide, Prostitution, and Suicide.

E.

Obituary.

Dr. Jno. H. Edwards, of St. Joseph, Mo., died Jan. 1st, 1876, in the 73d year of his age. The Medical Society of Central Missouri were assembled, and passed resolutions expressive of the high moral and professional character of the deceased.

Meteorological Observations.

METEOROLOGICAL OBSERVATIONS AT ST. LOUIS, MO.

By A. WISLIZENUS, M. D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimum occurs generally in the night, the maximum about 3 P. M. The monthly mean of the daily minima and maxima, added and divided by 2, gives a quite reliable mean of the monthly temperature.

THERMOMETER FAHRENHEIT.

JANUARY, 1876.

Day of Month.	Minimum.	Maximum.	Day of Month.	Minimum.	Maximum.
1	49.0	67.0	18	51.5	61.0
2	39.0	55.5	19	29.0	41.5
3	32.0	49.5	20	33.0	48.5
4	34.5	56.5	21	31.5	51.0
5	40.0	62.5	22	45.0	58.5
6	29.0	42.0	23	31.0	35.5
7	33.0	55.5	24	22.0	26.0
8	45.5	66.5	25	24.0	34.5
9	24.0	65.5	26	29.0	38.5
10	17.0	28.0	27	37.0	48.5
11	19.0	40.0	28	45.0	61.0
12	26.0	33.0	29	16.5	26.5
13	15.0	26.5	30	19.5	39.0
14	22.5	52.0	31	29.0	50.0
15	38.0	43.0			
16	37.5	45.0	Mean	31.9	47.3
17	42.0	57.0	Monthly Mean	39.6	

Quantity of rain: 4.31 inch.

Mortality Report.—City of St. Louis.

FROM DEC. 31, 1875, TO JAN. 29, 1876. INCLUS.

Measles	25	Anasarca	2	Cynanche Maligna	1	Permatu (1 ith....	
Scarlatina	27	Marasmus	10	Pneumonitis	62	Infantile Debility...	
Variola	21	General Debility	1	Fleuritis	1	Congenital Occlus	
Varioloid	1	Scrofula	3	Hydrothorax	1	Hæmorrhage (puer-	
Diphtheria	17	Phthisis Pulmonalis	67	Empyema	1	peral)	
Croup, membranous	13	Tuberc Dorsalis	1	Congestion of Lungs	2	Hæmorrhage of Intes-	
Erysipelas	6	Hydrocephalus	4	Oedema of Lungs	2	tines	1
Typhoid Fever	8	Abscess	1	Dyspnoea	2	Puerperal Mania	1
Remittent Fever	1	Meningitis	10	Catarrh	1	Puerperal Metritis	1
Typho-Malarial Fever	1	Apoplexy	4	Stomatitis	1	Puerperal Peritonitis	1
Congestive Fever	1	Softening of Brain	2	Gastritis	1	Puerperal Convuls'ns	2
Congestive Chills	2	Effusion	1	Gastro-Enteritis	5	Puerperal Fever	3
Septicæmia	2	Convulsions (Infan-		Enteritis	5	Hæmorrhage of Ute-	
Diarrhœa	5	tile)	31	Peritonitis	5	ras	1
Dysentery	4	Paralysis, General	2	Jaundice	1	Albuminuria	1
Cerebro-Spinal Men-		Tetanus	2	Ascites	1	Senile Debility	2
ingitis		Trismus Nascentium	12	Intussusception of In-		Asthænia	2
Malarial Toxæmia		Cong. of Stomach	1	testines	1	Wound, gunshot	2
Syphilis (Congenital)		Ceg. of Brain	12	Ulceration stomach	1	" " Lacerated	1
" " Tertiary		Cong. General	3	Cirrhosis of Liver	2	Poisoned by Mor-	
Alcoholism (Intm'ce)		Phlebitis	2	Hepatitis	2	phine	1
" (Mauia-a-porte)		Inflam. of Brain	1	Abscess of Liver	3	Str. ngulation	1
Cancer		Endocarditis	1	Nephritis	4	Concussion of Brain	1
Cancer of Stomack		Dropsy (General)	7	Nephria — Bright's		Suicide by hanging	2
Cancer of Uterus		Angina Membranosa	1	Disease	2		
Cancer of Rectum		Heart Disease (Or-		Uremia		Total Deaths	542
Cancer of Ventricle		ganic)	5	Suppression of Urine		Still-Births	34
Cancer of Spleen		Laryngitis	2	Diabetes	1		
Rheumatism (inflam)	1	Laryngitis	2	Injury of Spine	1		

R. H. O'BRIEN, M. D., Clerk of Board of Health.

COMPRESSED PILLS.

Manufactured by JOHN WYETH & BROTHER, Chemists,
No. 1412 Walnut Street, Philadelphia.

These "Compressed Pills," made by dry compression, are free from the coatings that render many other pills objectionable. They are readily soluble or diffusible, and being flat in shape are more easily swallowed than those in any other form. Owing to the absence of the excipients ordinarily employed in making pills, they are smaller than those made by any other process. They are smooth, glossy, and elegant in appearance, and are made only of the purest materials. Leading physicians have found these Compressed Pills to be reliable and quick in their action. The Pills can be sent by mail to druggists and physicians at an expense of 16c. per pound, or 1c. per ounce for postage.

	GRAINS.		GRAINS.
ACIC ARGENICI,	1-20 1-50	MORPH. SULPHAT.	1-10, 1/2, 3/4
ACID, TANNIC,	2, 5	NEURALIC,	{ Quiniaz Sulph. 1 1/2
ALOES (U. S. P.)	{ Pulv. Aloes Soc. 2	{ Morphiaz 1-20	
	{ Pulv. Saponis, 2	{ Strychniaz, 1-30	
	{ Pulv. Aloes Soc. 1/2	{ Ext. Aconit. 1/4	
ALOES et FER.	{ Pulv. Zingib. Jam. 1	OPII,	1 1/2
	{ Fer Sulph. Exsic. 1	OPII,	{ Opii, 1
	{ Ext. Conii 1/2	et CAMPH.	{ Camph., 2
ALOES	{ Pulv. Aloes Soc. 2	OPII	{ Opii, 5
et MYRRH,	{ Pulv. Myrrhæ, 1	et PLUMBI AC.	{ Plumbi Acet. 1/2
(U. S. P.)	{ Croci Stigmat., 1/2	PANCREATIN,	1
AMMONIA BROMID,	5, 10	PEPSIN,	5
AMMONIA MURIAT,	3, 5	PEPSIN PORCI	{ Bismuth Sub-Nit 5
ANTI-BILIOUS	{ Ext. Coloc. Co. 2 1/2	et BISMUTH,	{ Pepsin Porci 1
(Vegetable).	{ Podophyllin, 1/4	PEPSIN PORCI	{ Pepsin Porci 2
	{ Pulv. Ipecac., 1-10	et BISMUTH	{ Bis. Sub-Nit. 5
ANTI-	{ Mass. Hydrarg. 2	et FERRI,	{ Ferri Met. 1/2
DYSPEPTIC,	{ Ext. Coloc. Co. 2	PEPSIN PORCI	{ Bis. Sub-Nit. 2 1/2
	{ Ext. Nucis Vom. 1/3	et BISMUTH	{ Pepsin Porci 2 1/2
APERIENT,	{ Ext. Coloc. Co. 2	et STRYCHNIE	{ Strych. 1-60
	{ Pulv. Rhei, 1/2	PEPSIN PORCI et	{ Pepsin Porci, 3
BISMUTH SUB-NIT,	5, 10	CALCI LACTOTH.	{ Calcii Lactophosph 2
BIS. SUB-NIT,	{ Bismuth Sub-Nit, 2 1/2	PEPSIN PORCI	{ Pepsin Porci, 5
et PEPsin,	{ Pepsin, 2 1/2	et FERRI,	{ Ferri Pyrophos. 2
CALOMEL,	1/4, 1, 2, 3, 5	PEPSIN PORCI et	{ Pepsin Porci, 5
CATHART. COMP. (U. S. P.)		STRYCHNIE	{ Strych. 1-60
CATHART. IMPROVED		PEPSIN PORCI	{ Pepsin Porci, 2
	{ Ext. Coloc. Simp. 1/2	et PANCREATIN	{ Pancreatin, 2
	{ Podophyllin, 1/4	et BISMUTH.	{ Bis. Sub-Nit. 2
CATHARTIC	{ Pulv. Res. Scam. 1/3	PEPSIN COMP.	{ Pepsin, 2
(Vegetable).	{ Pulv. Aloes Soc. 1 1/4		{ Sodii Lactac. 2
	{ Pulv. Cardamini, 1-9		{ Magnes. 2
	{ Pulv. Saponis, 1/3	PHOSPHORI,	1-60, 1-100
CERII OXALAT.	2	(c Sacch. Lact. 2 grs.)	
COOK'S	{ Aloes, 1	PHOSPHORI	{ Phosphori, 1-100
	{ Calomel, 1/2	COMP.	{ Ext. Nuc. Vom. 1/4
	{ Rhei, 1	IODOPHYLLIN,	1/4, 1/2, 1-10
	{ Sapo, 1/2	(c Sacch. Lactis, 2 grs.)	
COLYCINTH. COMP. (U. S. P.)		IODOPHYLLIN,	1/2 ad 2
DOVER'S POWDER,		IODOPHYLLIN	{ Podoph. 1/2
Ipecac and Opii	2, 3, 5	COMP.	{ Ext. Hyos. 1/8
FERRI MET. (Quevenne's),	1		{ Ext. Nuc. Vom. 1-10
FERRI CARB. PROTO	3, 5	IODOPHYLLIN	{ Podophyllin 1/4
FERRI CARB.	{ Fer. Carb. (Vallet), 2	et HYDRARG.	{ Mass. Hydrarg. 2
QUINIE,	{ Quin. Sulph. 1	POTASS. BICARB.	8
et STRYCH.	{ Strychniaz, 1-60	POTASS. BROMID,	5, 10
FERRI LACTAT	1	QUINIE BI-SULPHAT,	1/2, 1, 2, 3, 4, 5
FERRI PYROPHOSPH	2	QUINIE SULPHAT,	1/2, 1, 2, 3, 4, 5
FERRI et QUINIE CITRAT	2, 3	QUINIE	{ Quiniaz Sulph. 1
FERRI et QUINIE	{ Ferri Met. 1/2	et FERRI	{ Ferri Pulv. 1
SULPH. et BIS.	{ Quiniaz Sulph. 1/2	et STRYCH.	{ Strychniaz, 1-60
MUTH, et	{ Bismuth Sub-Nit 5	RHEI (U. S. P.)	{ Pulv. Rhei. 3
PEPSIN	{ Pepsin Porci, 2		{ Pulv. Saponis, 3
FERRI et QUINIE	{ Ferri Met. 1/2		{ Pulv. Rhei. 2
SULPH. et BIS.	{ Quiniaz Sulph. 1/2	RHEI COMP.	{ Pulv. Aloes Soc. 1 1/2
MUTH et	{ Bismuth sub-Nit, 5	(U. S. P.)	{ Pulv. Myrrh. 1
PEPSIN et	{ Pepsin Porci, 2		{ Ol. Menth. Pip. 1
STRYCHNIE,	{ Strychniaz 1-60	SANTONIN,	1
HOOPER'S,			{ Sodii Bicarb. 8
HYDRARG (U. S. P.)	1, 2, 3, 5	ODAMN	{ Ammon. Carb. 1/2
IODOFORM,	1		{ Ol. Menth. Pip. gtt. 1/2
IODIFORM	{ Iodoform, 1		{ Strychniaz, 1-100
et FERRI,	{ Fer. Carb. (Vallet), 2	STRYCHNIE	{ Phosphor., 1-100
LADY	{ Pulv. Aloes Soc. 2	COMP.	{ Ext. Cannab. Ind. 1-10
WEBSTER'S,	{ Gum. Mastich. 2		{ Fer. Carb. (Vallet), 1
(3 grs.)	{ For Rosæ, 2		{ Aloes, 2
LEPTANDRIN,	1/2 ad 1	TRIPLIX	{ Pil. Hydrarg. 1
	{ Leptandrin, 1/2 ad 1		{ Podophyllin, 1/4
	{ (c Sacch. Lactis 2 grs.)		

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FOR THE TREATMENT OF

Catarrh, Bronchitis, Asthma,

And Diseases of the Lungs and Air Passages. By bringing the medicine in direct contact with the diseased part. The topical application is perfect, for cleansing, disinfecting and neutralizing; controlling the symptoms with more promptness and certainty than any other method of application.

TESTIMONIALS.

Detroit, July 22d, 1875

Having examined the Donaldson Inhaler, I have no hesitation in pronouncing it one of the most efficient instruments for the purpose for which it is designed that I have seen, while its cheapness and simplicity must commend it to all.

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I have examined Donaldson's Inhaler, and think for certain forms of diseases it is just the thing. I will agree to take one for use in my own family.

N. W. WEBBER, M. D.

We concur in the above.

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A pamphlet describing it, and testimonials of distinguished Physicians, also Price List, sent on application. Beware of similar articles sold on the great reputation of the above.

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Sole Proprietor, Providence, R. I.

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(a flexible Pad,) if worn in the night, or day, self-applies a fine constant Electric influence: an *External remedy* of peculiar power: cures Chronic Pains, local Weakness and other ills; also aids the effect of other remedies, for Weak Lungs, Throat, Stomach or Back, Sluggish Liver, Rheumatic Heart, Asthma, Congestion in Neck and Head, Pains, Weak Kidneys and Pelvic Organs.

Best large Disk, 5 by 8 inches, 24 poles, \$2. Children's, 2 by 5, \$1. Simple 2 poles, 60 cts. Greatly improved in efficiency and durability. Each Disk is *warranted*.

Physician's say, "Garratt's Disk is the only the only thing *for this purpose*, that is truly scientific and reliable."

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Long Island College Hospital.

BROOKLYN, NEW YORK.

SESSION OF 1875-6.

The **Collegiate Year** in this institution embraces a **READING and RECITATION TERM** and a **REGULAR TERM of LECTURES**.

The **READING and RECITATION TERM** will commence October 1, 1874, and close at the commencement of the Regular Term.

The **REGULAR TERM** will open March 1st, 1876, and close the last week in June following.

THE LONG ISLAND COLLEGE HOSPITAL was the first, in this country, to *unite a Hospital and a Medical School*, for the purpose of securing more thorough *demonstrative* teaching. The Hospital is under the immediate control of the Regents and Council of the College, and therefore fully available for all purposes of practical instruction.

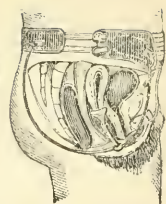
Over twelve thousand patients are treated annually in this institution—hence the clinical material is ample. Advanced students have *free access to the Wards of the Hospital*. The practical departments are therefore largely taught at the bedside.

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This instrument is a uterine and abdominal supporter combined. The uterine stem is of highly polished hard rubber, which can be bent by immersion in hot water to exactly fit the shape of the vagina. It is suspended by two soft rubber tubes passing through the head of the stem and affording four points of support, instead of one or two as others now in use, and so adapting itself to all the varying positions of the body. It will not interfere with any of life's private necessities; is not corrosive, and is lighter than if metallic. Cups are furnished for retroversion, anteversion or any of the flexions of the womb.

These instruments have received the indorsement and recommendation of the medical profession generally, and are now more in use than all other similar instruments taken together.

Price to Physicians, \$8.00; to Patients, \$12.00.

Instruments can be sent by mail or express. If sent by mail postage will be 8 cents, which should be added to the remittance. For circulars and further information, address,

Dr. McIntosh's Natural Uterine Supporter Co.

296 West Lake Street, Chicago, Illinois.

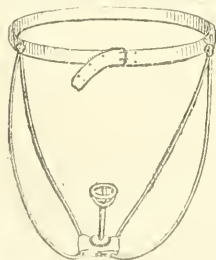
QUININE CAN BE TAKEN WITHOUT TASTE BY USING QUININE ELIXIR.

This Elixir is neutral, medicinally, with the exception of slight tonic properties, and does not affect the medicinal properties of Quinine in the least, on the contrary, Quinine taken in this way is considered one-third more efficient than in pill, and is just the same as when taken in crystal or solution.

The only pleasant way in which Quinine can be given to ladies, children and convalescents. Prepared by

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The most practical and effectual instrument in the market; made of **SOFT RUBBER** with an interior rod or stem of Hard Rubber, susceptible of being bent to any desired curve. **NON-IRRITATING, EASY OF APPLICATION and CLEANLY.** It affords a support as strong and firm as the metal and hard rubber instruments, without their rigidity.

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Are made from the choicest selected materials by saturation and pressure, without the employment of HEAT OR GLYCERINE—both of which are highly objectionable, heat impairing the quality, and glycerine retarding the action of all vegetable

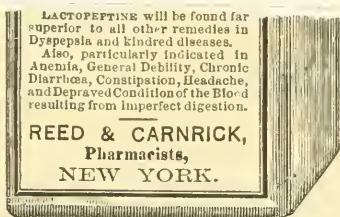
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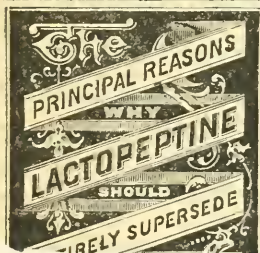
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The digestive action of Pepsin, an aliment used by man, years, during which time cases of Dyspepsia, Constipation, Vomit diseases arising from One of the most important where the digestive organ tion the remedies indicate



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2 1/2 fl. Drachms.
2 1/2 fl.*

*f our manufacture, is
ept invariably in their*



- 1st.—It will digest from three to four times more coagulated albumen than any preparation of Pepsin in the market.
- 2d.—It will emulsionize and prepare for assimilation the oily and fatty portions of food, Pepsin having no action upon this important alimentary article.
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- 4th.—It contains the natural acids secreted by the stomach (Lactic and Hydrochloric), without which Pepsin and Pancreatine will not change the character of coagulated albumen.

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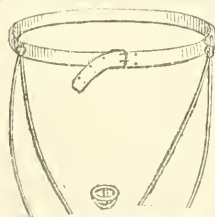
QUININE ELIXIR.

This Elixir is neutral, medicinally, with the exception of slight tonic properties, and does not affect the medicinal properties of Quinine in the least, on the contrary, Quinine taken in this way is considered one third more efficient than in pill, and is just the same as when taken in crystal or solution.

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IS BECOMING INDISPENSABLE AS AN ADJUNCY TO MEDICAL TREATMENT, AND IS NOW IN THE OFFICES OF MANY OF OUR LEADING PHYSICIANS. NO ONE THING WILL SO GREATLY HELP THE DOCTOR IN RESTORING HIS PATIENTS. IT IS UNIVERSALLY RECOMMENDED BY THE MEDICAL PROFESSION.

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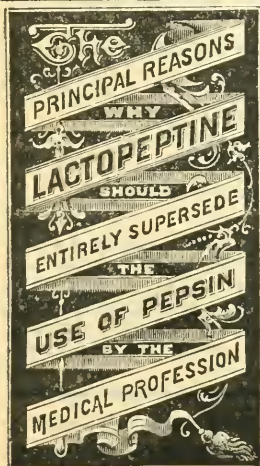
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ration of Pepsin
aliment used by man.
This preparation has
years, during which time
cases of Dyspepsia, 1
Constipation, Vomit
diseases arising from
One of the most impor
where the digestive organ
tion the remedies indicat*

LACTOPEPTINE will be found far
superior to all other remedies in
Dyspepsia and kindred diseases.
Also, particularly indicated in
Anemia, General Debility, Chronic
Diarrhoea, Constipation, Headache,
and Depraved Condition of the Blood
resulting from imperfect digestion.

REED & CARNICK,
Pharmacists,
NEW YORK.

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24 ft. Drachms.
24 ft.
"*

*our manufacture is
not invariably in their*



- 1st.—It will digest from three to four times more coagulated albumen than any preparation of Pepsin in the market.
- 2d.—It will emulsify and prepare for assimilation the oily and fatty portions of food, Pepsin having no action upon this important alimentary article.
- 3d.—It will change the starchy portions of vegetable food into the assimilable form of Glucose.
- 4th.—It contains the natural acids secreted by the stomach (*Lactic and Hydrochloric*), without which Pepsin and Pancreatine will not change the character of coagulated albumen.
- 5th.—Experiments will readily show that the digestive power of the ingredients of Lactopeptine, when two or more are combined, is much greater than when separated. Thus, 4 grs. of Pepsin and 4 grs. of Pancreatine mixed, will dissolve one third more albumen than the combined digestive power of each agent separately in same length of time.
- 6th.—IT IS MUCH LESS EXPENSIVE TO PRESCRIBE. It dissolves nearly four times as much coagulated albumen as Pepsin, besides digesting all other food taken by the human stomach. An ounce of Lactopeptine is, therefore, fully equal in digestive power to seven ounces of Pepsin, yet it is furnished at about the same price.

TO THE MEDICAL PROFESSION.

A NEW AND IMPORTANT REMEDY.

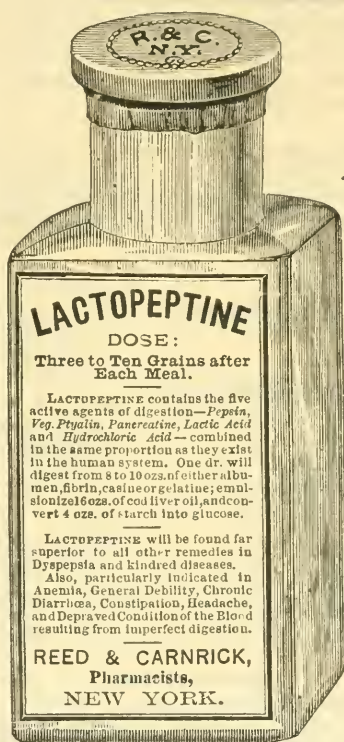
LACTOPEPTINE.

LACTOPEPTINE contains all the agents of digestion that act upon food, from mastication to its conversion into chyle, and is therefore the most important remedy for Dyspepsia that has ever been produced.

The digestive power of LACTOPEPTINE is seven times greater than any preparation of Pepsin in the market, as it has the important advantage of dissolving all aliment used by mankind, while Pepsin acts only upon plastic food.

This preparation has now been in the hands of the Medical Profession for two years, during which time its therapeutic value has been most thoroughly established in cases of Dyspepsia, Intestinal diseases of Children, Chronic Diarrhoea, Constipation, Vomiting in Pregnancy or Dyspepsia, Headache, and all diseases arising from imperfect nutrition.

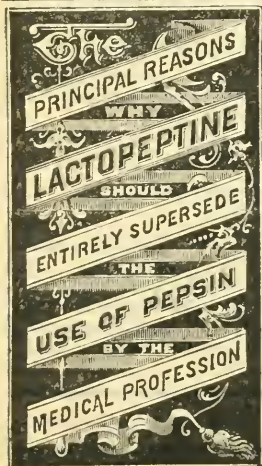
One of the most important applications of LACTOPEPTINE is in those cases where the digestive organs are unable, from debility, to properly prepare for assimilation the remedies indicated. In such cases combine it with the remedy indicated.



LACTOPEPTINE, as well as all other preparations of our manufacture, is prepared strictly for the use of the Medical Profession, and is kept invariably in their hands.

FORMULA OF LACTOPEPTINE.

Sugar of Milk,	20 Ounces.	Veg. Ptyalin or Diastase,	1 Drachm.
Pepsin,	4 "	Lactic Acid,	2 1/2 fl. Drachms.
Pancreatine,	3 "	Hydrochloric Acid,	2 1/2 fl. "
Powder and Mix.			



- 1st.—It will digest from three to four times more coagulated albumen than any preparation of Pepsin in the market.
- 2d.—It will emulsionize and prepare for assimilation the oily and fatty portions of food, Pepsin having no action upon this important alimentary article.
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All the Statements made in this Circular are the result of repeated and careful experiments.

The palatability and digestive power of LACTOPEPTINE has been more than doubled during the past two months, by producing several of its component parts free from all extraneous matter, and we now believe it is not susceptible of any further improvement.

Physicians who have not given LACTOPEPTINE a trial in their practice, are respectfully requested to read the following opinions of some of our leading Practitioners as to its merits as an important remedial agent.

IN ADDITION TO THE FOLLOWING RECOMMENDATIONS, WE HAVE RECEIVED OVER SEVEN HUNDRED COMMENDATORY LETTERS FROM PHYSICIANS, A LARGE NUMBER OF WHICH ENUMERATE CASES WHERE PEPSIN ALONE HAD FAILED TO BENEFIT, BUT FINALLY HAD BEEN TREATED SUCCESSFULLY WITH LACTOPEPTINE.

The undersigned, having tested REED & CARNRICK's preparation of Pepsin, Pancreatine, Diastase, Lactic Acid and Hydrochloric Acid, made according to published formula, and called *Lactopeptine*, find that in those diseases of the stomach where the above remedies are indicated, it has proven itself a desirable, useful and well adapted addition to the usual pharmaceutical preparations, and therefore recommend it to the profession.

NEW YORK, April 6th, 1875.

J. R. LEAMING, M. D.,

Attending Physician at St. Luke's Hospital.

ALFRED L. LOOMIS, M. D.,

Professor of Pathology and Practice of Medicine, University of the City of New York.

JOSEPH KAMMERER, M. D.,

Clinical Professor of Diseases of Women and Children, University of the City of New York.

LEWIS A. SAYRE, M. D.,

Professor of Orthopædic Surgery and Clinical Surgery, Bellevue Hospital Medical College.

EDWARD G. JANEWAY, M. D.,

Professor Pathological and Practical Anatomy, and Lecturer on Materia Medica and Therapeutics, and Clinical Medicine.

SAMUEL R. PERCY, M. D.,

Professor Materia Medica, New York Medical College.

J. H. TYNDALL, M. D.,

Physician at St. Francis' Hospital.

JOSEPH E. WINTERS, M. D.,

House Physician Bellevue Hospital.

GEO. F. BATES, M. D.,

House Surgeon Bellevue Hospital.

INEBRIATE ASYLUM, NEW YORK, March 25th, 1875.

I have carefully watched the effects of *LACTOPEPTINE*, as exhibited in this institution, for about six months, especially in the treatment of Gastritis, and it gives me pleasure to be able to say that I have found the best results from it, supplying as it does an abnormal void of nature in the secretions of the stomach.

N. KEELER MORTON, M. D.

BRANDON, VT., March 31st, 1875.

I desire to say that I have used *LACTOPEPTINE* for a year, not only on my friends, but also in my own case, and have found it one of the most valuable aids to digestion that I have ever used.

A. T. WOODWARD, M. D.,

Late Professor of Obstetrics and Diseases of Women and Children, Vermont Med. College.

EXTRACT FROM A REPORT UPON THE USES OF LACTOPEPTINE,
BY J. KING MERRITT, M. D., FLUSHING, L. I.

About six months since I saw a notice of *LACTOPEPTINE* and its analysis in a Medical Journal, and having long ago recognized the inability of Pepsin to reach those cases in which the several processes of digestion are all more or less involved, I immediately commenced the use of *LACTOPEPTINE* in my own case. This was, in brief, an inherited, fostered, and persistent condition of General Dyspepsia, which I had treated for several years with Pepsin, finding in its use good service, although the general results were discouraging.

A large proportion of diseases are the result of imperfect digestion.

In all cases when the stomach is unable to digest and appropriate the remedies indicated, they should be combined with
Lactopeptine.

The effect of *LACTOPEPTINE* on my powers of digestion has far surpassed my expectations, and its remedial qualities in numerous cases, more or less complicated, have been all that I could desire. In these cases *LACTOPEPTINE* was associated with other remedies indicated, for the purpose of facilitating their assimilation, which is so often nullified by a disordered and debilitated condition of the digestive organs.*

I will now give, in brief, an epitome of a case recovering under the use of *LACTOPEPTINE*. She was a married lady, who five years ago became afflicted with diarrhoea, which had baffled every mode of intelligent treatment. She had an intestinal flux, body much emaciated, and her entire health was greatly impaired. I treated her with *LACTOPEPTINE*, in conjunction with other remedies, many of which had been formerly used without avail. She is now rapidly recovering.

I shall only add that the more my experience, in its varied applicability, extends, the more its beneficial effects appear.

—○—
NEWTON, IOWA, May 19th, 1875.

I have been using *LACTOPEPTINE* for several months, and after a careful trial in stomach and bowel troubles, find that it has no equal. In all cases of indigestion and lack of assimilation, it is a most splendid remedy.

H. E. HUNTER, M. D.

—○—
WEST NEWFIELD, ME., June 14th, 1875.

LACTOPEPTINE seems to be all that it is recommended to be. It excels all remedies that I have tried in aiding a debilitated stomach to perform its functions.

STEPHEN ADAMS, M. D.

—○—
WOLCOTT, WAYNE CO., N. Y., June 29th, 1875.

From the experience I have had with *LACTOPEPTINE*, I am of the opinion that you have produced a remedy which is capable of fulfilling an important indication in a greater variety of diseases than any medicine I have met with in a practice of over 45 years.

JAMES M. WILSON, M. D.

—○—
BROWNVILLE, N. Y., August 3d, 1875.

Some time since I received a small package of *LACTOPEPTINE*, which I have used in a case of long standing Dyspepsia. The subject is a man 40 years of age; has had this ailment over 10 years. I never had so bad a case before, and I have been practicing medicine 21 years. Your *LACTOPEPTINE* seems just the remedy he needs. He is improving finely, and can now eat nearly any kind of food without distress. I have several cases I shall take hold of as soon as I can obtain the medicine.

W. W. GOODWIN, M. D.

—○—
EDDYVILLE, WAPELLO CO., IOWA, May 5th, 1875.

I have used the *LACTOPEPTINE* in my practice for the last eighteen months, and find it to be one of our great remedies in all diseases of the stomach and bowels. I was called last fall to see a child three years old, that was almost in the last struggles of death with Cholera Infantum. I ordered it teaspoonful doses of Syrup of Lactopeptine, and in a few days the child was well. I could not practice without it.

F. C. CORNELL, M. D.

—○—
CORTLAND, DE KALB CO., ILL., August 12th, 1875.

I received recently a small package of *LACTOPEPTINE* with the request that I should try it in a severe case of Dyspepsia. I selected a case of a lady who has been a sufferer over 30 years. She reported relief after the first dose, and now, after using the balance of the package in doses of three grains, three times daily, says she has received more benefit from it than from any other remedy she had ever tried.

G. W. LEWIS, M. D.

* We desire particularly to call the attention of the Profession to the great value of *LACTOPEPTINE* when used in conjunction with other remedies, especially in those cases in which the digestive organs are unable, from debility, to properly prepare for assimilation the remedies indicated.

One drachm of Lactopeptine will digest ten ounces of Coagulated Albumen, while the same quantity of any standard preparation of Pepsin in the market will dissolve but three ounces.

One drachm of Lactopeptine dissolved in four fluid drachms of water will emulsionize sixteen ounces of Cod Liver Oil.

CHILLICOTHE, Mo., September 4th, 1874.

I have used *LACTOPEPTINE* this summer with good effect in all cases of weak and imperfect digestion, especially in children during the period of dentition, cholera infantum, &c. I regard it, decidedly, as being the best combination containing Pepsin that I have ever used.

J. A. MUNK, M. D.

—○—
FORT DODGE, IOWA, November 15th, 1874.

I have fairly tried, during the past summer and fall, your *LACTOPEPTINE*, and consider it a most useful addition to the list of practical remedies. I have found it especially valuable in the *gastro-intestinal* diseases of children.

W. L. NICHOLSON, M. D.

—○—
WHITE HALL, VA., January 4th, 1875.

A short time since I sent for some of your *LACTOPEPTINE*, which I used in the case of a lady who had been suffering with dyspepsia for over twelve months, and who had taken Pepsin, and other remedies usually prescribed in that disease, with very little benefit. I ordered the *LACTOPEPTINE*, and was pleased to find a decided improvement after a few days, which has steadily increased. At the present time she appears to have entirely recovered.

Very truly,

E. B. SMOKE, M. D.

—○—
INDIANOLA, IOWA, December 11th, 1874.

I consider the *LACTOPEPTINE* a heaven-sent remedy for all digestive troubles. I gave it to a lady troubled with exhaustive nausea and vomiting from pregnancy, with immediate and perfect relief, after all other remedies had failed. She was almost in *articulo mortis*. The third day after taking the *LACTOPEPTINE* she was able to be up. I was called in council the other day to a case of Intussusception; the patient was vomiting stercoracious matter; had retained no nutrition for several days. I gave the *LACTOPEPTINE* with immediate relief. Ingestion was retained. I relieved the bowels by inflation, got an operation, and the patient will recover. I consider the *LACTOPEPTINE* was his *sheel anchor*. I am now using the *LACTOPEPTINE* in Cancer of the Stomach—the only medicine that gives the patient any relief. It seems to act as an anodyne in his case more so than morphine.

C. W. DAVIS, M. D.

—○—
CONTOCOOK, N. H., November 25th, 1874.

After a thorough trial, I believe *LACTOPEPTINE* to be one of the most important of the new remedies that have been brought to the attention of physicians during the last ten years. I have used it in several cases of vomiting of food from dyspepsia, and in the vomiting from pregnancy, with the best of success. The relief has been immediate in every instance. In some of the worst cases of Cardialgia, heretofore resisting all other treatment, *LACTOPEPTINE* invariably gave immediate relief. It has accomplished more, in my hands, than any other remedy of its class I ever met with, and I believe no physician can safely be without it. It takes the place of Pepsin, is more certain in its results, and is received by patients of all ages without complaint, being a most pleasant remedy. I have used *LACTOPEPTINE* in my own case, having been troubled with feelings of weight in the stomach and distress after eating, but always have obtained immediate relief upon taking the elixir in teaspoonful doses.

GEORGE C. BLAISDELL, M. D.

—○—
MO. VALLEY, IOWA, November 12th, 1874.

Some months since I saw in a medical journal a notice of your *LACTOPEPTINE*. Having in charge a patient in whose case I thought it was indicated, I prescribed it in 5 gr. doses. He used it about a week and was greatly benefited. I failed to procure more just then, so I gave him Pepsin instead, the patient thinking it to be the same prescription. After two days he returned to my office, saying that "the last medicine didn't hit the spot, but that which you gave me last week was just the thing, and has given me more relief than any medicine I have ever taken." I consider this a fair test (so far as it goes) of the merits of this new, and I think, invaluable remedy.

G. W. COIT, M. D.

One drachm of Lactopeptine will transform four ounces of Starch into Glucose.

Pancreatine and Diastase are more important digestive agents than Pepsin.

COMMUNICATIONS FROM MEDICAL JOURNALS.

We have for several months been prescribing various preparations of medicine containing **LACTOPEPTINE** as an important aid to digestion. It may be advantageously combined with cod liver oil, calisaya, iron, bismuth, quinine and strychnia. **LACTOPEPTINE** is composed of pepsin, ptyalin, pancreatine, lactic acid and hydrochloric acid—pepsin, lactic and hydrochloric acids being in the gastric juice, ptyalin in the saliva, and pancreatine emulsifying fatty substances. The theory of its action being rational, we have prescribed the various preparations referred to above with more evidence of benefit than we ever observed from pepsin.—*St. Louis Medical and Surgical Journal*, September, 1874.

AN ARTICLE ON LACTOPEPTINE, BY LAURENCE ALEXANDER, M. D., OF YORKVILLE, S. C., IN THE *ATLANTA MEDICAL AND SURGICAL JOURNAL*, NOVEMBER, 1874.

Some time ago a small box, labelled "Physicians' Samples **LACTOPEPTINE**," was placed in my hands, with the request that I would give it a trial upon some one suffering from dyspepsia. Having, like other physicians, a large *per centum* of just such cases always on hand, in which various medicines and remedies had been used without success, I gladly consented, hoping that something had really been found at last to supply the want felt by every practitioner in the treatment of this troublesome complaint. After several months' experience in the use of this preparation, in which it has been thoroughly tested upon a large number of patients with such gratifying results, I am induced to recommend it to the consideration of the profession, feeling confident that, with due care in their diagnosis, and the many little cautions always necessary, such as restricting the excessive use of fluids while eating, etc., and a little patience on the part of the sufferer, its good effects will be seen beyond a doubt.

While I employ it extensively in many deranged conditions of the bowels incident to infancy and childhood, I find it equally efficacious in constipation and all diseases arising from imperfect nutrition in the adult. In sickness of pregnancy it answers well, far exceeding, in my hands, oxalate of cerium, extract lupulin, or the drop doses of carbolic acid, so highly extolled by some practitioners. In its combination with iron, quinine and strychnia, we have the advantage of using, in cases of great nervous depression and debility peculiar to the dyspeptic, our most valuable agent in a truly elegant form.

TO TEST THE DIGESTIVE POWER OF LACTOPEPTINE IN COMPARISON WITH ANY PREPARATION OF PEPSIN IN THE MARKET.

To five fluid ounces of water add one drachm of Lactopeptine, half drachm of Hydrochloric Acid, 10 ounces Coagulated Albumen, allowing it to remain from two to six hours at a temperature of 105 deg., agitating it occasionally.

Lactopeptine is prepared in the form of Powder, Sugar Coated Pills, Elixir, Syrup, Wine and Troches.

LACTOPEPTINE is also combined with the following preparations:

EMULSION OF COD LIVER OIL WITH LACTOPEPTINE.

This combination will be found superior to all other forms of Cod Liver Oil in affections of the Lungs and other wasting diseases. Used in Coughs, Colds, Consumption, Rickets, Constipation, Skin Diseases and Loss of Appetite.

The Oil in this preparation being partly digested before taken, will usually agree with the most debilitated stomach. Although we manufacture seven other preparations of Cod Liver Oil, we would recommend the above as being superior to either of them. It is very pleasant to administer, compared with the plain Oil, and will be readily taken by children.

EMULSION OF COD LIVER OIL WITH LACTOPEPTINE AND LIME.

Each ounce of the Emulsion contains 16 grs. Lactopeptine and 16 grs. Phosphate Lime.

ELIXIR LACTOPEPTINE.

The above preparation is admirably adapted in those cases where Physicians desire to prescribe Lactopeptine in its most elegant form.

REED & CARRICK manufacture a Full Line of Fluid Extracts.

BEEF, IRON AND WINE WITH LACTOPEPTINE.

In those debilitated dyspeptic cases when an Iron Tonic, combined with the strengthening properties of Extract of Beef and Wine are indicated, this preparation will be found most efficacious.

ELIXIR PHOSPHATE OF IRON, QUININE AND STRYCHNIA WITH LACTOPEPTINE.

There can be no combination more suitable than the above in cases of Nervous and General Debility, attended with Dyspepsia.

ELIXIR LACTOPEPTINE, STRYCHNIA AND BISMUTH.

A valuable combination in cases of Dyspepsia, attended with nervous debility.

ELIXIR GENTIAN AND CHLORIDE OF IRON WITH LACTOPEPTINE.

An elegant and reliable remedy in cases of Dyspepsia attended with General Debility.

SYRUP LACTOPEPTINE COMP.

Each ounce contains 24 grains Lactopeptine, 8 grains Phosphate of Iron, 8 grains Phosphate Lime, 8 grains Phosphate Soda, and 8 grains Phosphate Potash.

This preparation will be found well suited to cases of General Debility, arising from impaired digestion, and also of great value in Pulmonary Affections.

FORMULÆ.

The following valuable formulæ have been contributed by J. KING MERRITT, M. D., who has used them with great success in his practice:

No. 1.—FOR INTERMITTENT FEVER WITH CONGESTION OF LIVER.

R	Liquid Lactopeptine,	dr. vi.
	Fl. Ex. Cinchona Comp.,	dr. i.
	Fl. Ex. Taraxacum,	aa
	Tinct. Zingiber,	dr. iii.
	Hydrochloric Acid Dilut.,	dr. i.
	Spts. Lavender Comp.,	dr. ii.
	Sulphate Quinia,	grs. xl.

M. Dose.—One teaspoonful every two or three hours.

Sig.—Quinine mixture or tonic mixture.

REMARKS.

This mixture should be taken every two hours in the case of a quotidian attack, as soon after the subsidence of the paroxysms as the stomach will accept it, or even during the sweating stage, if the stomach is not especially irritable, and should be continued until the hour of anticipated paroxysms at the same rate, except during the night, from 10 P. M. to 4 A. M., as a general rule. Six to eight doses to be taken during the first interval, and if the attack does not recur, then continue the mixture daily for one week, at a rate diminished by one hour each day.

No. 2.—FOR INTERMITTENT FEVER WITH IRRITABLE STOMACH.

R	Liquid Lactopeptine,	dr. vi.
	Fl. Ex. Cinchona Comp.,	dr. i.
	Tinct. Zingiber,	dr. iii.
	Spts. Lavender Comp.,	dr. v.
	Aromatic Sulphuric Acid,	dr. i.
	Essence Ment. Pip. or Gaultheria,	gtts. x.
	Sulphate Quinia,	grs. xl.

M. Dose.—One teaspoonful with water *ad libitum* every two or three hours, as in Formula No. 1, and in accordance with the type of the attack. Begin at the rate indicated;

that is, if "Tertian," every three hours, and then after first interval, if the paroxysm does not recur, continue mixture at a diminished rate each succeeding day, as indicated in remarks appended to Formula No. 1, to wit, by increasing the period of time between each dose of medicine an hour every day until a week has passed, when the frequency of dose will be reduced to three times a day, at which rate it should be continued until complete restoration of appetite and strength.

No. 3.—FOR MALARIAL DYSPEPSIA.

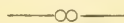
\mathcal{R} Liquid Lactopeptine,	dr. fl. vi.
Fl. Ex. Cinchona Comp.,	aa
Tinc. Nux Vomica,	dr. xi.
Spts. Lavender Comp.,	oz. ss.
Hydrocyanic Acid Dilut.,	dr. ss.
Syr. Aromatic Rhubarb,	oz. ss.
Sulphate Quinine,	dr. ss.

M. Dose.—One teaspoonful with water *ad libitum* at meals (before or after), and at bed time if required; also, use in addition after the meals full doses of Pulv. Lactopeptine with Spts. Lavender Comp. and Lime Water, *in case the patient should suffer from positive signs of indigestion, although the dose of Formula No. 3 has already been taken at the meal time*, either immediately before or after eating, in accordance with the rule or foregoing instruction.

No. 4.—FOR CHRONIC DIARRHŒA.

\mathcal{R} Liquid Lactopeptine,	dr. vi.
Liq. Opii Comp. (Squibbs'),	dr. iii.
Nitric Acid Dilut.; or, Aqua Regia Dilut.,	dr. i.
Syr. Aromatic Rhubarb,	dr. ii.
Pulv. Nit. Bismuth,	dr. ss.
Aqua Camph.,	oz. ss.

M. Dose.—One teaspoonful with water after each flux from bowels, and as a rule, at bed time, even if the diarrhœa is apparently checked at that hour, and *this rule should be persisted in* for two or three days, or until the diarrhœal tendency has been entirely subdued.



PEPSIN—PANCREATINE—DIASTASE.

In addition to *LACTOPEPTINE* we manufacture *PEPSIN*, *PANCREATINE* and *DIASTASE*. They are put up separately in one ounce and pound bottles.

They will be found equal in strength with any other manufacture in the world.

They are all presented in a saccharated form, and are therefore very palatable to administer.

COMP. CATHARTIC ELIXIR.

The only pleasant and reliable Cathartic in liquid form that can be prescribed.

Each fl. oz. contains:

Sulph. Magnesia, 1	dr.
Senna, 2	"
Scammony, 6	grs.
Liquorice, 1	dr.
Ginger, 3	grs.
Coriander, 5	"

With flavoring ingredients.

Dose.—Child five years old, one to two teaspoonfuls; adult, one to two tablespoonfuls.

This preparation is being used extensively throughout the country. It was originated with the design of furnishing a liquid Cathartic remedy that could be prescribed in a palatable form. It will be taken by children with a relish.

MAINE INSANE HOSPITAL, AUGUSTA, Feb. 25th. 1875.

I am happy to say that we are much pleased with the Compound Cathartic Elixir. It has, so far, proved the best Liquid Cathartic we have ever used in our Institution. It acts effectively and kindly, without irritation or pain.

H. M. HARLOW, M. D.

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Lymph tubes, each,	-	-	-	-	-	-	2.00
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according to size.							

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Is published every Saturday, in pamphlet form, neatly bound and cut. It contains twenty to twenty-four large, double-columned pages of reading matter, printed on fine paper, in clear and new type.

The REPORTER ranks among its contributors many of the most eminent practitioners and surgeons of the United States. Not to go beyond the numbers for the first volume of the current year, we find among their names those of Professors D. H. AGNEW, J. M. DA COSTA, W. W. DAWSON, A. HEWSON, A. JACOBI, R. J. LEVIE, W. PEPPER, L. A. SAYRE, J. S. WIGHT, J. R. WOOD, Drs. J. SOLIS COHEN, A. M. HAMILTON, S. WEIR MITCHELL, L. TURNBULL, and numerous others.

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Forms a volume of three hundred large octavo pages. It appears on the first of January and July. It covers the whole ground of Medical Science, distributed under the following headings:—I. Anatomy, Physiology, and Pathology. II. Physics, Botany, Chemistry, and Toxicology. III. Materia Medica and Therapeutics. IV. General Medicine and Sanitary Science. V. Clinical Medicine. VI. Obstetrics and Diseases of Women and Children. VII. Surgery.

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The superiority of these Globules over other forms consists in the ease with which they are taken, and in their ready solubility and hence promptness of action.

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CAUTION.—Persons wishing to use a pure extract of beef, will do well to specify the "LA PLATA," with above trade-mark, and accept no other.

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Containing in one preparation, and under a most agreeable form, a large proportion of tonic and nutritive principles.

It is a *pure chocolate*, containing the purest extract of beef, and is a most useful tonic and nutritive agent for invalids and convalescents, and for persons of feeble or delicate constitutions.

It contains 3 per cent. of La Plata Extract of Meat, and every square represents the nutritive constituents of $1\frac{1}{4}$ ounce of fresh beef.

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This new preparation, recently introduced in Europe, may be truly called a

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HEMATOSINE constitutes the basis of the red globules of the blood, and is the organic substance now known, which is richest in assimilable iron.

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Hematosine is offered in the form of pills, and is applicable to all cases in which the use of iron is indicated.

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Prepared from the *Paulinia Sorbilis* of Brazil. It is a sovereign remedy in *Headache, Neuralgia* and *Diarrhœa*.

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A pleasant substitute for Cod Liver Oil, prepared from juices of anti-scorbutic plants. Each tablespoonful contains one grain of Iodine, so intimately combined as to be insensible to the action of starch.

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A pleasant combination of Pyrophosphate of Iron and Soda, colorless and tasteless. It is readily assimilated and used with great success in *Chlorosis, Anæmia, Dysmenorrhœa, etc.*, replacing all other ferruginous preparations. It never causes constipation.

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Prescribed by the most distinguished physicians for *affections of the lungs, Phthisis, etc.* Each tablespoonful contains two grains of the pure hypophosphite.

Also Syrup of Hypophosphite of Soda, of Iron and of Manganese.

Digestive Lozenges and Powders of the Alkaline Lactates.

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The researches of DR. PETREQUIN, Prof. at the School of Medicine of Lyons, aided by MR. BURIN DU BUISSON, the eminent chemist, have established beyond a doubt the *special adaptation of the Alkaline Lactates* to the treatment of functional diseases of the digestive organs. These preparations will be found very beneficial in *imperfect and laborious digestion, heartburn, gastralgia, loss of appetite, nausea, distention of bowels and stomach*. They are more certain and less irritating than calcined Magnesia or preparations having *Charcoal, Bismuth, or bicarb of Soda* for their basis.

Digestive Lozenges and Powders of the Alkaline Lactates with Pepsine.

These are prescribed in certain cases when the digestive powers are deranged, weakened, or null.

Dusart's Lacto-Phosphate of Lime.

(SYRUP AND WINE.)

DUSART'S PREPARATIONS OF LACTO-PHOSPHATE OF LIME present to the physician the phosphate of lime in the combination in which it exists in the stomach, after it has been acted upon by the gastric fluid. It is, therefore, ready for assimilation, and hence, the Lacto-Phosphate should be preferred to the ordinary bone phosphate, which frequently is insoluble, or nearly so.

DUSART'S Work on the "PHYSIOLOGICAL AND THERAPEUTIC ACTION OF PHOSPHATE OF LIME" will be sent free on application to the Agents.

E. FOUGERA & CO., New York, Agents for the U. S.

SAVORY & MOORE, 143 New Bond Street, London, beg to call the attention of the Profession generally to some of the later preparations brought out in England, the purity and uniform strength of which can be guaranteed.

SAVORY & MOORE'S

Genuine Pancreatic Emulsion and Pancreatine.

In diseases where Wasting, loss of power of Digestion and Assimilation are prominent symptoms, the Pancreatic Emulsion and Pancreatine are the most potent Remedial Agents. When Cod Liver Oil fails to increase weight, or cannot be tolerated by the stomach, the Pancreatic Preparations are the only remedies which can supply its place, and give the power of digesting the oil.

PANCREATISED COD LIVER OIL.

A reliable combination of Pancreatine with the Oil, rendering its digestion easy and rapid.

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For the digestion of Cod Liver Oil, solid Fat, and Food generally. The Wine and Cod Liver Oil readily form an Emulsion when shaken together in equal proportions.

PHOSPHORISED COD LIVER OIL.—With Quinine.

PHOSPHORUS PILLS—PURE.

Of all sizes and strengths, non-resinous and perfectly soluble. Most of the uncertainty of operation experienced in the internal administration of Phosphorus may be traced to the use of Oxydised or Allotropic Phosphorus, preparations which are less active and more uncertain.

PEPTODYN, the New Digestive.

Digests all kinds of Food—the Farinaceous, Fibrinous and Oleaginous: being a combination of the several active principles of the digestive secretions, Peptic, Pancreatic, &c.

Five grains of Peptodyn (Powder) digests 100 grains of Coagulated Albumen, 100 grains of Fat, 100 grains of Starch.

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As supplied to the Royal Families of England and Russia.

Feeding infants on the best, *i. e.* the most *nourishing* and *easily digested* Food, has recently occupied much of the attention of the profession, and the fallacy and danger of *employing Starch*, in the form of *Corn Flour* and other *high sounding titles* has been repeatedly pointed out.

This food resembles Mother's Milk more closely than any other kind, perfectly fulfilling its object—that of promoting the GROWTH and HEALTH of the Child.

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Apomorphia, 1-10th of a grain.
Atropia Sulph., 1-120th of a grain.
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Caffeine, one-half of a grain.
Quinine, one half of a grain.
Strychnia, 1-60th of a grain.

Elaterium, 1-12th of a grain.
Ergotina, 1-3rd of a grain.
Morphia, 1-6th of a grain.
Phyostigmine (or Eserine), equal to
1-6th of a grain of the extract of
Calabar Bean.

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PURE COD-LIVER OIL,

Manufactured on the Sea-Shore by HAZARD & CASWELL, from Fresh and Selected Livers.

The universal demand for Cod Liver Oil that can be depended on as strictly pure and scientifically prepared, having been long felt by the Medical Profession, we were induced to undertake its manufacture at the Fishing Stations, where the fish are brought to land every few hours, and the Livers consequently are in great perfection.

This oil is manufactured by us on the sea-shore, with the greatest care,

from fresh, healthy Livers of the Cod only, without the aid of any chemicals, by the simplest possible process and lowest temperature by which the Oil can be separated from the cells of the Livers. It is nearly devoid of color, odor and flavor—having a bland, fish-like, and, to most persons, not unpleasant taste. It is so sweet and pure that it can be retained by the stomach when other kinds fail, and patients soon become fond of it.

The secret of making good Cod-Liver Oil lies in the proper application of the proper degree of heat; too much or too little will seriously injure the quality. Great attention to cleanliness is absolutely necessary to produce sweet Cod-Liver Oil. The rancid Oil found in the market is the make of manufacturers who are careless about these matters.

PROF. PARKER, of N. Y., says: "I have tried almost every other manufacturer's Oil, and give yours the decided preference."

PROF. HAYS, State Assayer of Massachusetts, after a full analysis of it, says: "It is the best for foreign or domestic use."

After years of experimenting, the Medical Profession of Europe and America, who have studied the effects of different Cod-Liver Oils, have unanimously decided the light-straw-colored Cod-Liver Oil to be far superior to any of the brown Oils.

The Three Best Tonics of the Pharmacopœia: IRON—PHOSPHORUS—CALISAYA.

CASWELL, HAZARD & CO. also call the attention of the Profession to their preparation of the above estimable Tonics, as combined in their elegant and palatable **Ferro-Phosphorated Elixir of Calisaya Bark**, a combination of the Pyrophosphate of Iron and Calisaya never before attained, in which the nauseous inkiness of the iron and astringency of the Calisaya are overcome, without any injury to their active tonic principles, and blended into a beautiful Amber-colored Cordial, delicious to the taste and acceptable to the most delicate stomach. This preparation is made directly from the **ROYAL CALISAYA BARK**, not from ITS ALKALOIDS OR THEIR SALTS—being unlike other preparations called "Elixir of Calisaya and Iron," which are simply **Elixir of Quinine and Iron**. Our Elixir can be depended upon as being a true Elixir of Calisaya Bark with Iron. Each dessert-spoonful contains seven and a half grains of Royal Calisaya Bark, and two grains Pyrophosphate of Iron.

Ferro-Phosphorated Elixir of Calisaya Bark with Strychnia. This preparation contains one grain of Strychnia added to each pint of our Ferro-Phosphorated Elixir of Calisaya Bark, greatly intensifying its tonic effect.

Ferro-Phosphorated Elixir of Calisaya with Bismuth. containing eight grains Ammonia-Citrate of Bismuth in each tablespoonful of the Ferro-Phosphorated Elixir of Calisaya Bark.

Elixir Phosphate Iron, Quinine and Strychnia. Each teaspoonful contains one grain Phosphate Iron, one grain Phosphate Quinine, and one sixty-fourth of a grain of Strychnia.

Ferro-Phosphorated Elixir of Gentian. containing one ounce of Gentian, and one hundred and twenty-eight grains Pyrophosphate Iron to the pint, making in each dessert-spoonful seven and one-half grains Gentian to two grains Pyrophosphate Iron.

Elixir Valerianate of Ammonia. Each teaspoonful contains two grains Valerianate Ammonia.

Elixir Valerianate of Ammonia and Quinine. Each teaspoonful contains two grains Valerianate Ammonia and one grain of Quinine.

Ferro-Phosphorated Wine of Wild Cherry Bark. Each fluid-drachm contains twenty-five grains of the Bark, and two grains of Ferri-Pyrophosphate.

Wine of Pepsin. This article is prepared by us from fresh Rennets and pure Sherry Wine.

Elixir Taraxacum Comp. Each dessert-spoonful contains fifteen grains of Taraxacum.

Elixir Pepsin, Bismuth, and Strychnine. Each fluid-drachm contains one sixty-fourth of a grain of Strychnine.

Juniper Tar Soap. Highly recommended by the celebrated Erasmus Wilson, and has been found very serviceable in chronic eczema and diseases of the skin generally. It is invaluable for chapped hands and roughness of the skin caused by change of temperature. It is manufactured by ourselves, from the purest materials, and is extensively and successfully prescribed by the most eminent physicians.

Iodo-Ferrated Cod-Liver Oil. This combination holds sixteen grains Iodide of Iron to the ounce of our pure Cod-Liver Oil.

Cod-Liver Oil, with Iodine, Phosphorus, and Bromine. This combination represents Phosphorus, Bromine, Iodine, and Cod-Liver Oil, in a state of permanent combination, containing in each pint: Iodine, eight grains; Bromine, one grain; Phosphorus, one grain; Cod-Liver Oil, one pint.

Cod-Liver Oil, with Phosphate of Lime. This is an agreeable emulsion, holding three grains Phosphate of Lime in each tablespoonful.

Cod-Liver Oil, with Lacto-Phosphate of Lime.

CASWELL, HAZARD & CO.,
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